

D E N T A L

Digest

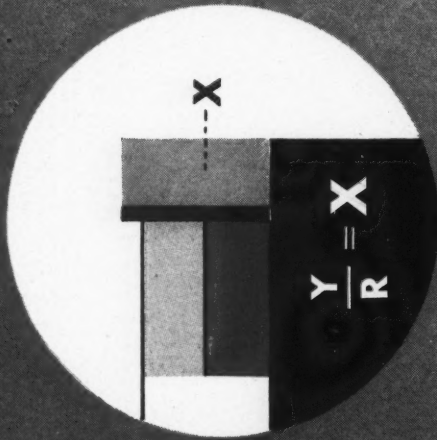


OCTOBER 1945

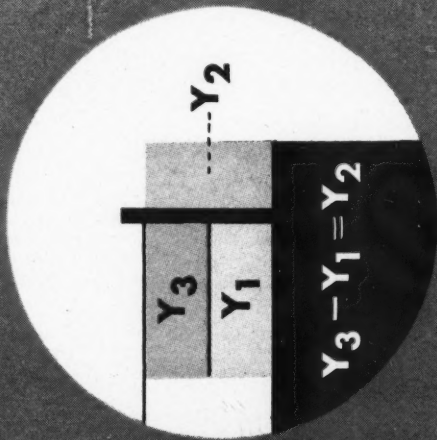
BUY

YOUR

EDITION



THE SATURATIONS OF THE DIAGRAMMATIC ILLUSTRATIONS ARE INTENSIFIED FOR EASIER PERCEPTION. THEY DEMONSTRATE THE PRINCIPLES INVOLVED IN THE CONTRAST-COMPARISON SYSTEM OF TOOTH COLOR SELECTION.



USE THE YELLOW TO SEE THE RED • USE THE RED TO SEE THE YELLOW...

USE THE LIGHT TO SEE THE DARK • USE THE DARK TO SEE THE LIGHT...

Human teeth are basically yellow or yellow modified with a tinge of red. The saturations of color, either the yellow or red, vary in each of these categories. The darker the tooth, the more intense the saturation and vice versa. The degree of saturation of even the "darkest" human tooth is very slight. Hence the difficulty in selecting tooth colors.

The Veri-chrome natural tooth colors simplify this problem by their sensible arrangement on the Color Guide. With this arrangement, it is possible to select tooth colors by a quick and easy method of contrast-comparison.

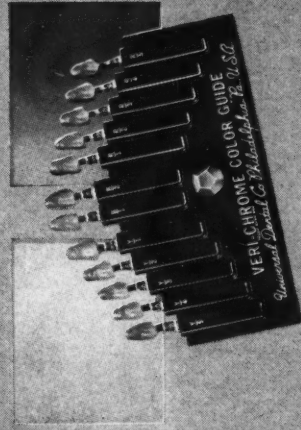
The dominantly yellow colors are arranged and identified progressively from one to five on the left side of the Veri-chrome Guide. The red series are arranged in the same manner on the right side of the guide.

If the natural tooth appears to be yellow for example, compare it with one of the "Red" series. The contrast comparison will quickly verify or reject your decision, since the yellow and red will appear more intense by contrast with each other.

After dominant color is determined, it only remains to select correct saturation. The lower illustration graphs the procedure. If the natural

tooth appears to be comparable to Veri-chrome Y/2, then Y/3 will be darker and Y/1 lighter by comparison. The accuracy of your estimate is quickly checked or a correction is clearly indicated.

Tooth color selection by contrast-comparison is possible only with the Veri-chrome Color Guide because of its systematic arrangement of colors in progressive saturations . . . and controlled color brilliance.



Veri-chrome

tooth colors now available in

FIVE-PHASE ANTERIORS DR. FRENCH'S POSTERIOR (new earclips)
NUFORM ANTERIORS AND POSTERIOR

THE DENTAL Digest

VOL. 51

NO. 10

October 1945

An Improved Method of Intermaxillary Fracture Wiring 552

Captain Charles L. Meistroff (DC) AUS

Fiberglas Used as a Root Canal Filling Material (Preliminary Report) 555

Harry Maeth, D.D.S.

Penicillin Topically (An Abstract), *E. J. Grace and V. Bryson* 556

The Nerve Distribution and the Blood Supply of the Head
(Color Feature) Insert attached to page 556

Prosthesis of the Eye in Synthetic Resin: A Preliminary Report 557

Captain S. F. Erpf (DC) AUS, Major V. H. Dietz (DC) AUS, and Major M. S. Wirtz (DC) AUS

Therapy of Acute Leukemia (An Abstract) 565

Clinical and Laboratory Suggestions 566

1. Applying Penicillin to Tooth Sockets. 2. Quick Repair or Adjustment of a Lingual Bar. 3. An Instrument for Removing Amalgam Restorations. 4. Controlling Distortion in Upper Anterior Roentgenograms. 5. Spruing Wax Patterns. 6. An Economical Method of Removing Surplus Powder from a Slab. 7. An Instrument for Use in Cementing Acrylic Crowns. 8. In Operative Procedures. 9. Removing a Fixed Bridge. 10. A Rubber Abrasive Wheel for Relieving Dentures and Polishing Gold. 11. Preparation of a Tray for a Hydrocolloid Impression. 12. Root Canal Medicament Dropper.

Staining of Acrylic Jacket Crowns and Pontics, *Captain S. Mayo Silverman (DC) AUS* 570

The Editor's Page 572

Dental Meeting Dates 573

Contra-Angles 576

The Use of Penicillin in Vincent's Angina (An Abstract) 590

EDWARD J. RYAN, B.S., D.D.S., Editor

ETHEL H. DAVIS, A.B., Assistant Editor
In Military Service

RUTH K. BARNHART, Assistant Editor
708 Church Street, Evanston, Illinois

CAPTAIN CHARLES LOUIS MEISTROFF (DC) AUS received his D.D.S. from the Medical College of Virginia, School of Dentistry, in 1931. Captain Meistroff is particularly interested in roentgenology and the surgical and pathologic phases of dentistry, and has contributed numerous articles on these subjects to the dental literature. This month his contribution to THE DIGEST is AN IMPROVED METHOD OF INTERMAXILLARY FRACTURE WIRING.

HARRY MAETH, D.D.S. (Columbia University, School of Dental and Oral Surgery, 1925) last wrote for us in August 1944 on CERVICAL LYMPH NODE METASTASES AND

About Our

CONTRIBUTORS

THEIR SIGNIFICANCE TO THE DENTIST. His preliminary report here introduces the use of Fiberglas as a root canal filling material.

The War Department has announced the award of the Legion of Merit to MAJOR VICTOR H. DIETZ (DC) AUS, MAJOR MIL-

TON S. WIRTZ (DC) AUS, and CAPTAIN STANLEY F. ERPF (DC) AUS (with Oak-Leaf Cluster) for work on acrylic eye replacements. Their article, PROSTHESIS OF THE EYE IN SYNTHETIC RESIN, is reprinted by special permission from *The Bulletin of the U. S. Army Medical Department* of July 1945.

CAPTAIN S. MAYO SILVERMAN (DC) AUS received his D.D.S. from the University of Southern California, College of Dentistry, in 1934. He was in general practice before entering the military service. Captain Silverman describes a method of STAINING ACRYLIC JACKET CROWNS AND PONTICS.

An Improved Method of Intermaxillary Fracture Wiring

Captain CHARLES L. MEISTROFF (DC) AUS

A simple technique is described for intermaxillary wiring of the teeth in correcting fractures. Two means of ligature attachment are provided by this method, which likewise assures an intact wiring system even if a ligature attachment loop, or several of them, should break off.

THE METHODS available for intermaxillary fracture wiring are as varied as are the kinds of fractures. All the methods have their advantages and disadvantages regarding appliance selection, application, installation, and immobilization.

Advantages of Technique

The method presented here is not, of course, a panacea, but in those cases in which it is applicable its several distinct advantages are obvious:

1. Provides two interlocking means of ligature fixation.

2. Ease of application.

3. In the event that a dental loop breaks or a circumferential wire separates in the wiring or during the period of immobilization, there is no need for complete rewiring, nor is immobilization interfered with.

4. The extra sling of double-twist wire between the interdental loops can be put to auxiliary use for ligature attachment.

5. The combined twisted ends of the loop and the sling serve as hooks for rubber bands in the event of breakage or if elastic traction is desired.

6. Strain is reduced on individual teeth.

Procedure

The technical fundamentals of application are comprehended easily if the photographs accompanying the text are followed.

1. In the first step (Fig. 1), dou-

ble a suitable length of lead wire and, at the doubled ligature, make a carefully twisted loop of about three turns. Be certain that the wires twist together and not one over the other.

2. Insert the free ends of both wires from the buccal lingually through the interproximal space between the teeth selected as best suited for anchors (Fig. 2).

3. Draw one wire around the distal of the last tooth, loop it around the gingival, and carry it forward again on the buccal. Pass this wire between the last twist of the two wires where they were pushed through the interproximal space (Fig. 3).

4. Draw the other free wire through the mesial interproximal space of the other (adjacent) tooth, passing it from lingual to buccal, and loop it around the gingival (Fig. 4).

5. Pull both wires tight about the encircled teeth, pushing the loop as far as it will go between the teeth.

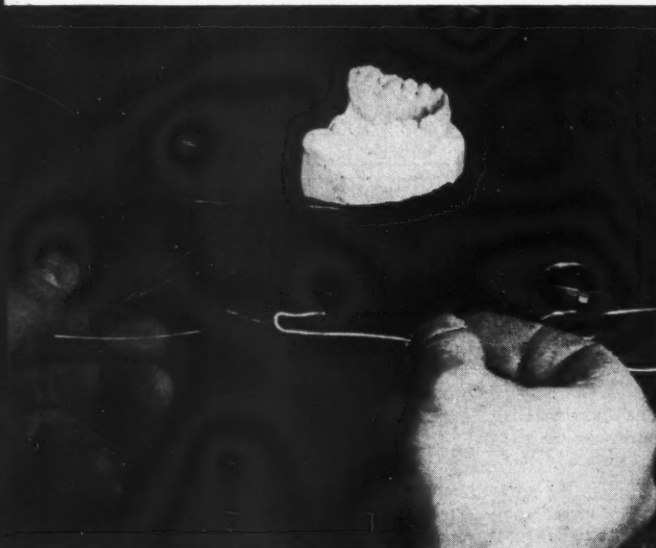


Fig. 1—Make a carefully twisted loop of about three turns where the lead wire is doubled.



Fig. 2—Pass free ends of wires from buccal to lingual between anchor teeth.



Fig. 3—Draw one wire around distal tooth, and pass end of wire through twist of wires at buccal of interproximal space.

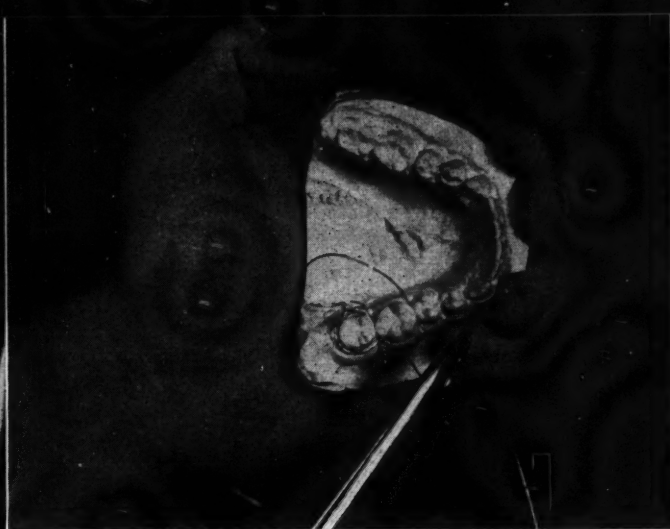


Fig. 4—Draw other wire through mesial interproximal space of adjacent tooth from lingual to buccal.



Fig. 5—Draw wires tight about encircled teeth, and pass the more anterior wire around the interproximal loop.



Fig. 6—Pass posterior wire in opposite direction around loop, and grasp both wires securely with a snub-nosed hemostat.

Fig. 7—Twist wires about an inch, and make a loop that extends to next interproximal space.

Fig. 8—Pass one wire through next mesial interproximal space to lingual, then through distal interproximal space buccally.





Fig. 9—Pull this wire tight and twist it once around the loop. Twist free wire once around the loop in opposite direction.



Fig. 10—Twist the wires for about an inch as close as possible to the loop base.

Pass the second wire, that which was last drawn, around the loop (Fig. 5). Draw the first wire, which was carried around the posterior tooth, around the loop in the opposite direction; grasp both wires securely with a snub-nosed hemostat; and twist them together, making certain that the wires are grasped as near as possible to the loop (Fig. 6).

6. Twist the two wires together for about an inch. Then by means of cotton pliers, or other suitable instrument, make a loop that will extend to the interproximal space of the next tooth forward (Fig. 7).

7. Pass one of the free ends of wire through the mesial interproximal space of the next anterior tooth, going from the buccal aspect to the lingual, and loop this tooth circumferentially (Fig. 8). Pull the wire tight, and twist it once around the twisted wire loop. Grasp the other

free wire and twist it once around the same loop, but in the opposite direction (Fig. 9). Take hold of both wires with a hemostat as close to the loop base as possible, and twist them (Fig. 10), in the same manner as for the previous sling, for about an inch. Then make a loop of the twisted wires (Fig. 11) to extend to the next interproximal space.

8. Pass the free end of one of the wires through the next mesial interproximal space, going from the buccal to the lingual and encircling the tooth gingivally, and push it through the distal interproximal space to the buccal (Figs. 8 and 9). This procedure is repeated for each loop and for each sling between loops until the wiring required for the particular case is completed.

9. Figure 12 shows the completed system of wiring with its loops and

slings. The upper part of the model shows the wiring correctly completed. The lower part shows the wiring with several loops twisted off. Note that the entire wiring system is still intact, not undone nor loosened in any way; and that ligatures, as shown, can be drawn through the slings and loops which are still unbroken.

Comments

By the method of intermaxillary wiring described here, the teeth are individually looped circumferentially, and slings are made with loops fashioned for each tooth so that both sides involved in the fracture are bridged sufficiently to guarantee good approximation. The teeth are locked in normal occlusion and completely immobilized to guarantee future functional occlusion and to minimize or prevent deformity.

Fig. 11—Make a loop of the twisted wires to extend to the next interproximal space.

Fig. 12—Wiring completed. Several loops are twisted off to demonstrate that the wiring still remains intact.



Fiberglas* Used as a Root Canal Filling Material

PRELIMINARY REPORT

HARRY MAETH, D.D.S., Mosinee, Wisconsin

The characteristics of Fiberglas and its varied uses in medicine are listed, and a preliminary report is made of a method of using it in filling root canals.

Characteristics of Fiberglas

1. Fiberglas is glass in fiber or filament form.
2. It is an inorganic, nontoxic, nonallergenic, nonsensitizing, and chemically stable substance which produces no harmful effect upon human tissues.
3. It is a pliable substance possessing great tensile strength, and a high degree of dimensional stability.
4. Fiberglas is nonhygroscopic and noninflammable.
5. The individual fibers do not absorb water; therefore, Fiberglas is easily sterilized and resterilized.
6. A special form of Fiberglas is

radio-opaque, and, therefore, detectable by roentgenography.¹

7. Glass is not classed as a carcinogenic substance.²

Uses in Medicine

Fiberglas materials have been used in medicine for:

1. Measurement of nitrogen loss in exudate from burned skin.
2. Tracer threads in surgical sponges.
3. Experimental surgical sutures.
4. Culture of micro-organisms.
5. Blood plasma filters.
6. Air-borne cross infection control.
7. Pollen and dust control.
8. Penicillin production.
9. Fiberglas-plastic artificial limbs.

10. Insulation of sterilizable closed motor.

Use in Root Canals

Prepared root canals of teeth can be filled readily with radio-opaque Fiberglas. The stages of canal filling can be verified in the roentgenogram (Fig. 1). As now available, radio-opaque Fiberglas is a yarn which is manipulated easily by working it into the canal from a piece about 6 inches in length. Approximately 18 inches of the material are required to fill the average size canal. Straight end gold foil condensing instruments facilitate the operation, and regulated force from the automatic hand mallet in addition to hand pressure quickly condenses the Fiberglas into a compact mass in the canal.

Sectioning of such a filled root canal, as is done in apicoectomy, does not disturb the mass of Fiberglas in

¹Pioneering Uses of Fiberglas Materials in Medicine, Owens-Corning Fiberglas Corporation, 1945.
²Scholz, R. P., and Mountjoy, P. S.: Fiberglas Suture Material: Preliminary Report, Am. J. Surg. 61:619-621 (June) 1942.

*Reg. U. S. Pat. Off.

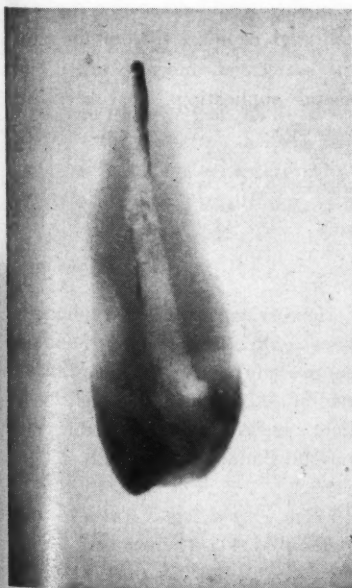


Fig. 1A

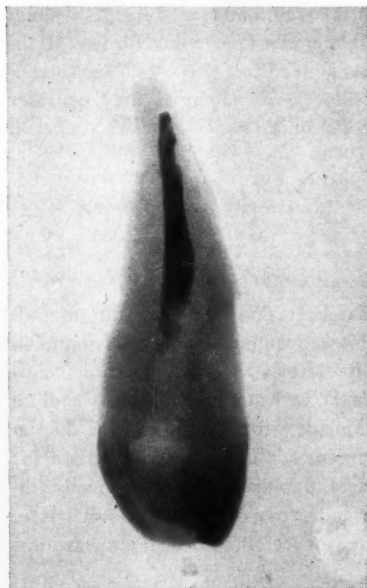


Fig. 1B

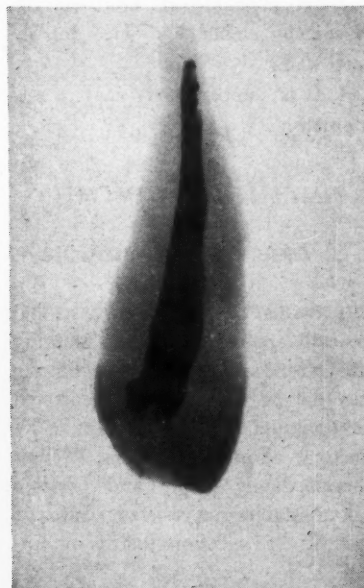


Fig. 1C

Fig. 1—Three stages (A, B, and C) of root canal filling with Fiberglas.

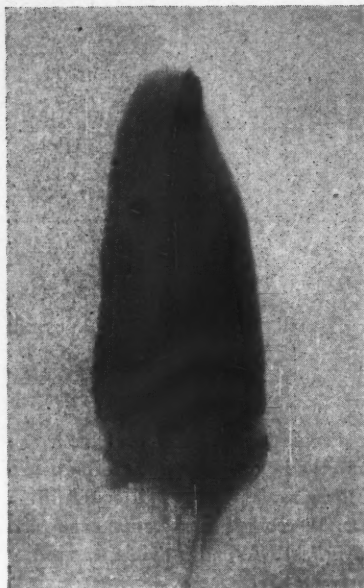


Fig. 2A

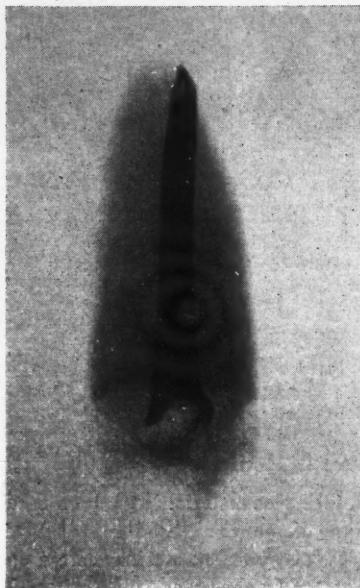


Fig. 2B

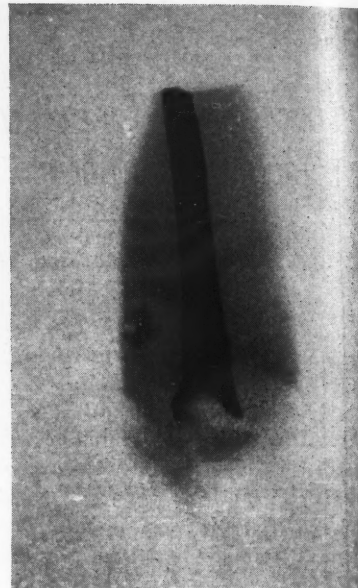


Fig. 2C

Fig. 2—A, B, and C: Sectioned root filled with Fiberglas. C shows the root end after amputation.

the canal (Fig. 2). The ease of manipulation of Fiberglas compared with that of gutta-percha reduces the operating time.

Advantages

1. Fiberglas is a dry material and pliable.
2. It has great tensile strength, and a high dimensional stability.
3. It is nontoxic, nonirritating, chemically stable, and does not absorb water.
4. It is comparatively easy to manipulate.

5. It is radio-opaque, and subject to x-ray recording.

6. Fiberglas can be sterilized and resterilized innumerable times.

7. Its cost of production is reasonable.

Comments

Wartime restrictions permitted the use of this material for experimental use only. Postwar production may make radio-opaque Fiberglas available in various other forms for diverse medical purposes. The manufacturers of Fiberglas may consider combining some adhesive material

with the Fiberglas to make possible a condensed mass which will be entirely impervious. The glass fibers used in the yarn are solid glass rods, and even when compacted tightly may leave minute interstices between the cylindrical fibers. The x-ray record of the condensed Fiberglas in the root canals reveals a solid homogeneous mass. Further experimentation probably would determine the possibility of capillarity from the tip of the root canal, and also reveal other useful applications of Fiberglas in dentistry.

Penicillin Topically

E. J. GRACE and V. BRYSON

THE AVAILABLE evidence suggests that topically applied penicillin containing 500 Oxford units per cubic centimeter may not be sufficiently concentrated for optimum therapeutic effect in refractory chronic infections. Present pharmacologic purity and possible risk of establishing resistant strains of bacteria by selection justify an up-

ward revision of concentration. Definite advantages have been found in the use of 4000 units per cubic centimeter in isotonic solution of sodium chloride with 0.1 per cent of the detergent sodium tetradecyl sulfate for local application to chronically infected areas of bone and soft tissue, and for treating infected amputations.

If experience in a larger number of cases confirms the efficacy of this simple procedure, it is possible that the magnitude of mutilating major surgical procedures for osteomyelitis may be limited substantially.

—From *United States Naval Medical Bulletin* 45:481 (September) 1945.

Prosthesis of the Eye in Synthetic Resin:

A PRELIMINARY REPORT*

Capt. S. F. ERPF (DC) AUS, Maj. V. H. DIETZ (DC) AUS, and Maj. M. S. WIRTZ (DC) AUS

Fitting an eye replacement can be accomplished readily by the dental officer in cooperation with the medical officer. A simple, teachable method of fabrication is presented as a result of research conducted by the Medical Department of the United States Army, with the object of minimizing the usual period of delay experienced in procuring acceptable prostheses for military patients.

The technique described for fabricating a plastic eye replacement embodies the following advantages:

1. Freedom from fragility and surface etching occurring as a result of dissolution by socket secretions.

2. Adjustability of size and form during and following fabrication in order to compensate for socket irregularity so frequently observed in cases of military nature.

3. Adaptability of various other features, such as the limbus, depth of anterior chamber, diameter of iris, pupillary aper-

ture, vascularity, and sclera color, to meet individual esthetic requirements. This is possibly only because of strictly anatomic assembly of parts throughout.

4. An actual three-dimensional effect in iris construction due to suspension in clear resin of a perforated transparent disc which has been painted on both sides. The three-dimensional effect mentioned is further enhanced by placement of the pupil disc at some distance posterior to the iris disc.

5. Opportunity to stock prefabricated iris buttons enabling the operator to know at the outset the exact color of the iris in the completed prosthesis.

6. Elimination of such time-consuming steps as multiple mold construction, precision grinding of the iris recess, and engraving for simulation of veins as required in prostheses of the conventional type.

7. Teachability of method insofar as dental personnel may be trained to undertake all phases of fabrication after a relatively short period of instruction.

Consideration of Materials

There are definite disadvantages to the use of glass as a material in restorations of the conventional type. Glass restorations are fragile and often are broken even by the most careful patient. Not infrequently a glass prosthesis will explode spontaneously in the eye socket and will require the painstaking removal of the sharp fragments by the ophthal-

mologist. The surface glaze of glass is not permanent and etching often occurs. This becomes a source of annoyance to the patient. Glass restorations, also, are difficult to fit properly to defects and variations in the soft tissues. All too often for this reason a stock glass prosthesis far too small will be selected for the socket it is intended to fit. Furthermore, the fabrication of an eye replacement in glass requires a degree of artistic talent and skill developed only by years of constant training and experience.

Finally, stocks of glass eyes, because of curtailment of imports of critical components, are depleted to the point where military patients are no longer being supplied with restorations which can be considered optimum from a standpoint of fit, color, mobility, and alinement.

Restorations of a more durable substance were urgently required, which could be made as natural or more natural in appearance than those of glass. A material had to be used which could be procured easily and which would lend itself readily enough to routine technical procedures necessitating only the minimum of technical skill and laboratory equipment. A rapid, readily teachable method had to be devised which could be standardized to the point where the component parts of the prosthesis might be prefabricated, then assembled, modified, and adjusted to meet the patient's individual requirements. These requisites were of paramount importance to the military service.

The technique of fabricating plastic eye replacements described has satisfied the foregoing requirements. Its advantages are concerned principally with the inherent strength of the material used and the ease with which an optimum result may be realized. The method has been kept as simple as possible in order that no extraordinary artistic talent or technical skill would be required. The procedures involved are well within the capabilities of the average dental technician.

The design of the prosthesis is such that it will permit fabrication in custom fashion with little more in the way of material and supply than those found in any modern, well

*Reprinted by special permission from *The Bulletin of the U. S. Army Medical Department* 4:76-86 (July) 1945.

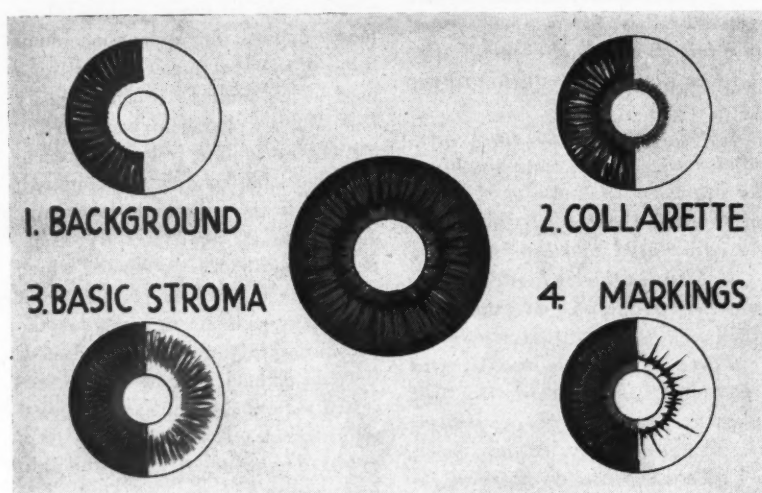
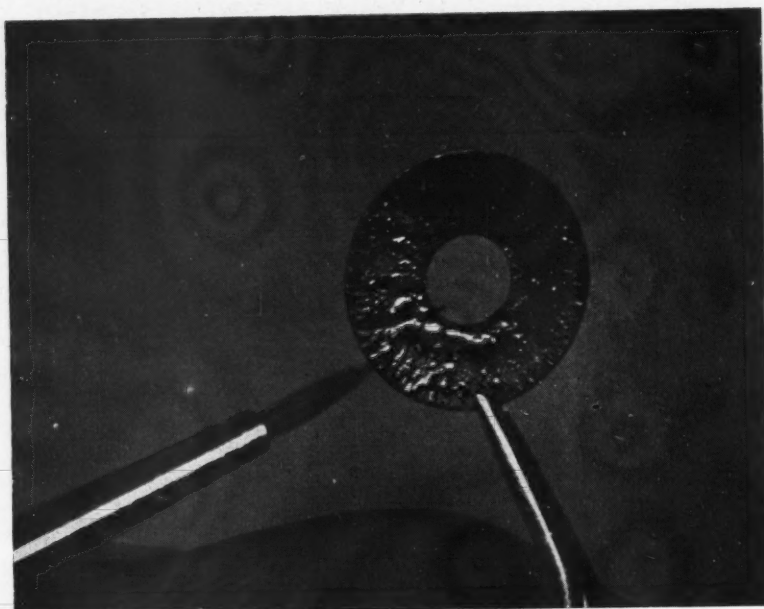


Fig. 1—The iris disc.

equipped dental laboratory. The basic resin, methylmethacrylate, is obtained easily, being a standard item used in the production of acrylic teeth. It lends itself well to molding, coloring, and adjustment of size and shape after initial completion. Synthetic resin satisfies well the three factors important to the success of any prosthesis: function, esthetics, and comfort.

Anatomic Factors

Preliminary inspection of the typical anophthalmic socket discloses a conjunctiva-covered posterior wall of more or less triangular outline. The

posterior wall is surrounded by cul-de-sacs, or fornices, formed by the reflection of upper and lower lids. The most acute apex of the triangular outline is directed toward the nasal aspect and resolves itself into the medial canthus. In this region is found a reddish elevation, the lacrimal caruncle. The next most acute apex of the triangle is directed superiorly. Between the two apexes mentioned is a broad band, the retracted tendon of the superior oblique muscle which is found occupying the region of the fornix. The least prominent and most rounded apex of the triangle is found in the inferior

lateral position. The contour and motility of the posterior wall of the socket are influenced by several factors depending principally on:

1. The type of operation performed by the ophthalmic surgeon—enucleation or evisceration (exenteration).
2. Whether or not an implant-sphere was embedded at the time of operation.
3. The type of implant-sphere used.
4. The amount of orbital adipose tissue present, which incidentally varies considerably in certain individuals over a given period.
5. The extent of atrophy of muscle and other tissue incident to the removal of the eye. Contour and tonus of the eyelids are particularly susceptible even to relatively slight injuries. These should be evaluated at the time of the examination of the patient.

Technical Aspects

With these essentials of anatomic configuration in mind, the technical aspects of the problem may be considered. They are divided for convenience into the following eight steps: the iris disc, the iris button, the impression techniques, the mold, the sclera, the veining technique, the conjunctiva, and polishing and fitting.

Iris Disc—Clear cellulose acetate, 0.01-inch thickness, is used for the painting of the iris disc. Perforated discs of four external diameters are used. The measurements of these are determined by the frequency range of iris diameters in the human eye: 11.0 to 12.5 millimeters. Diameters of the central perforation representing the pupillary aperture are varied at will by the operator. They may range from 2 to 7 millimeters or larger, the average being 4 millimeters.

The colors used for painting the iris disc are ordinary artist's oil pigments of high quality. Seven shades have been selected for their color permanency: (1) zinc white, (2) ivory black, (3) chromium green, (4) cobalt blue, (5) burnt umber, (6) yellow ochre, and (7) cadmium red.

Three or four zones of color are discernible in the average iris de-

pending on its over-all color classification—blue, green, hazel, or brown (Fig. 1). The first and most peripheral zone of color is that occurring just within the corneoscleral juncture. For identification it will be called the "background color." For practical purposes, it is the key to blending of the paints for subsequent procedures.

The second zone of color occupies about one-half the radius of the disc and is found just within the zone background color described. It is a lighter color and usually can be matched by the simple addition of zinc white to the background color, the one exception to this rule being in the case of brown eyes when it is advisable to lighten by the addition of yellow. For identification it is referred to as the "stroma color" since its structure is radiating and striated in nature. The third zone of color is the "collarette color" which, with the exception of brown and hazel eyes, is found just within the stroma color. Its radiating fibers are of considerably more delicate design. The fourth zone comprises that of the markings and assumes a variety of shades ranging from lemon-yellow to brown. Its designs, as in blue and green eyes, vary from small specks to a flame-shaped overlay covering half or more of the iris as in the case of brown or hazel eyes.

The paints are applied on both sides of the transparent iris disc, in such a manner that the background and collarette colors painted on the underside will be discernible through the striations of the stroma color and markings painted on the obverse. This feature produces a true third-dimensional effect in the subsequent processing. Softness or harshness of striations is controlled by varying the consistency of the paint with linseed oil. After painting, the discs are placed for drying on a suitable rack (the small aluminum trays in which porcelain teeth are carded are excellent for this purpose). Drying is effected in a drying oven. Several hours at a temperature of not more than 55° C. are sufficient, provided that the paints have not been applied too thickly. Curing at higher tem-

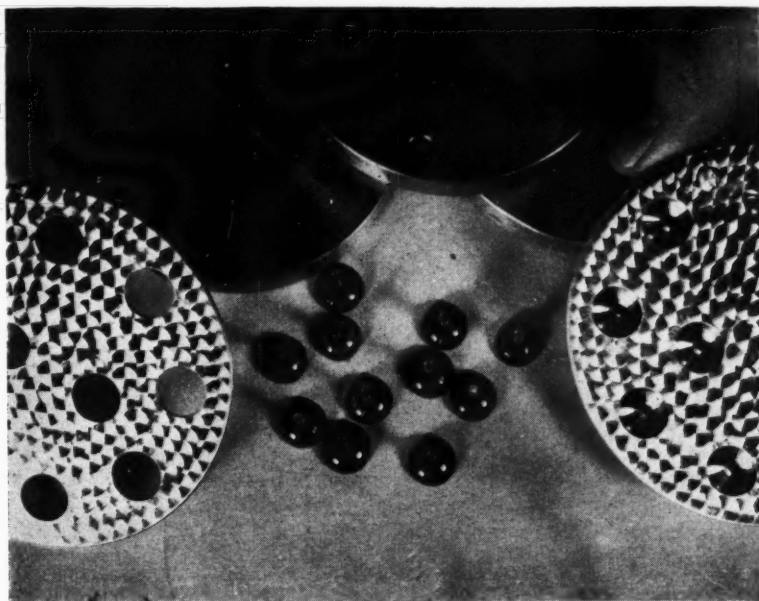
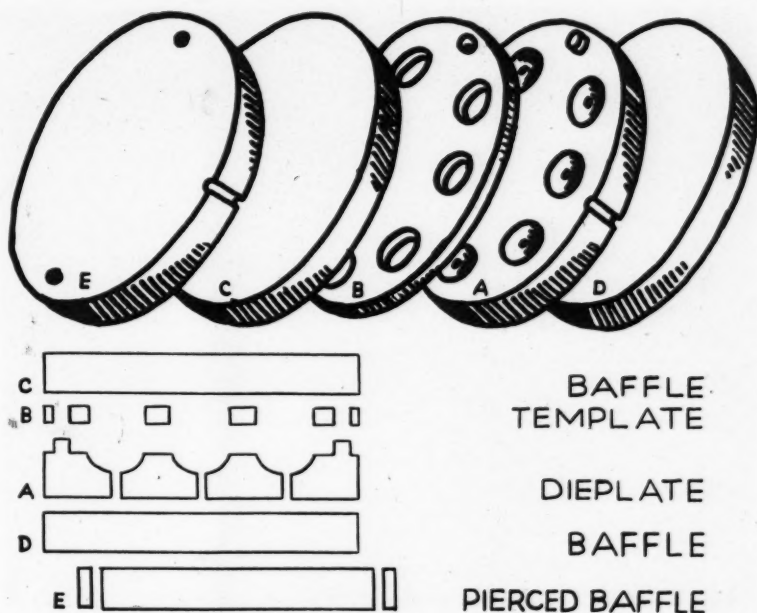


Fig. 2—The die set.

peratures will result in disc shrinkage.

Iris Button—The die set for the processing of the iris button consists of five parts: (1) die plate, (2) template, (3 and 4) two baffles, (5) pierced baffle (Fig. 2). These are constructed of stainless steel and contain sectional cavities of varying sizes which permit the molding of the iris buttons. The iris button comprises four essential features—the iris disc, the pupil disc which is immediately

behind the iris disc, the clear part representing the anterior chamber and cornea, and the button stem. The advantages of the button stem are:

1. To act as an ejector-pin for removal of the button from the mold.
2. To act as a handle-pin for convenience in manipulating the wax form.
3. To serve as a device in determining correct alignment of the visual axis.

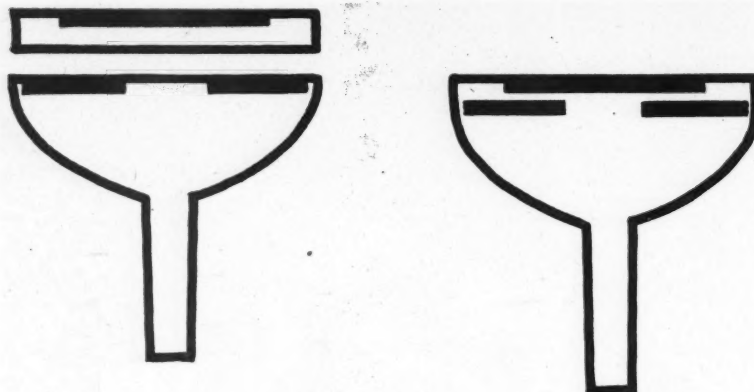


Fig. 3—The iris button.

4. To serve as a locator for the button during molding and processing of the sclera.

Advantages: The advantages of the button per se are obvious in that prefabrication of an essential part is possible. The button can be made ready for immediate selection and use in the wax form on presentation of the patient. Despite its simplicity it embodies such important features as the following:

1. A predetermined average corneal curvature and depth of anterior chamber which can be adjusted subsequently to meet individual requirements.

2. A means of producing the all-important diffused juncture between the cornea and sclera and the oppor-

tunity of adjusting it to meet individual requirements.

3. A means of accurately selecting an iris of proper size and color without making allowance for the magnifying and intensifying effect of a subsequently placed clear plastic overlay.

Packing the Die-Plates: The die-plates are packed with a mixture of clear resin dough of rubbery consistency. The various essential elements of the die-plate are separated by intervening layers of dry cellophane to permit test-packing. All excess plastic is eliminated by test-packing, and the flash material is removed by means of a suitable instrument. A jet black vinyl acetate pupil disc and the painted iris disc are then inserted in two stages and the die-plates reassembled

and placed in a spring compress. After remaining under spring pressure for at least twenty minutes the press is tightened completely and the button allowed to cure in dry heat at 76° C. for at least three hours. After curing, the die is cooled and the buttons removed. It should be noted that the black pupil disc lies some distance posterior to the iris disc. This feature still further enhances the third-dimensional effect (Fig. 3).

Impression Techniques

Stock eye replacements when placed into sockets oblige the orbital tissues to conform to the prosthesis. Carefully made scleral forms individualized to the particular requirements of a given case reduce the possibility of distorting the tissues of the socket. If this factor is not observed, the maximum degree of mobility, so greatly desired in the prosthesis, frequently is lost.

An eye replacement with an ill-conforming periphery often causes the tissues and the fornices of the socket to be stretched into abnormal positions, thereby causing circumferential resorption and limiting mobility. Stock eye replacements which are fitted too loosely lack adequate retention and frequently will lag when the various ocular excursions are initiated. Such eyes produce their most notorious sequelae in the nature of shrinkage of the sockets with accompanying flaccidity of the orbicularis muscle and the orbital tissues. In either of the aforementioned cases the conventional concavity of the posterior surface of the stock eye may cause the prosthesis to teeter-totter over the fulcrum-like convexity produced by the implant-sphere. Noncontactual posterior surfaces also may impose an excessive stress upon the tissue-bearing areas of the periphery. The so-called "inevitable tissue changes" within the socket frequently are precipitated by those prostheses which are not physiologically and anatomically correct.

To our present knowledge the impression for the eye replacement should be taken within two or three weeks after the enucleation, as dic-

tated by postoperative resolution. It is assumed, of course, that a plastic modeling compound, or gutta-percha conformer, will have been employed for a more effective centering of the implant-sphere in the socket during the interim between surgery and the taking of the impression.

Two alternate impression techniques are employed in developing a wax form which will determine the size and shape of the scleral part of the artificial eye. The first, simpler, and more rapid of these is a "compression impression technique" which is indicated in all cases where the socket to be fitted is not of grossly abnormal configuration, such as might be caused by cicatrices, extensive loss of contents of the socket, or injury to the structures of the eyelids. The second method is termed the "injection impression technique." It is more circuitous in nature, and produces a no more effectively shaped prosthesis for the uncomplicated socket. It is advantageous, however, in those cases of extreme irregularity where retention of an adequate prosthesis constitutes a problem. The injection impression technique is not recommended in the following instances:

1. In atony or flaccidity of the inferior lid.

2. In extremely small sockets, until peripheral distension has been adequately established in order to effect a retentive depth in both the superior and inferior fornices. Peripheral distension should be developed by the use of conformers of increasing size over a suitable period of time.

3. Where it is desired to employ a light-weight or shell-type prosthesis to minimize the weight factor which frequently causes sagging of the lower lid.

Compression Impression Technique

1. A shallow cup is formed in medium hard paraffin wax, the convex surface of which should approximate that of the anterior aspect of the sclera of the eye to be duplicated. In most instances, this will be found to resemble closely the curvature of a

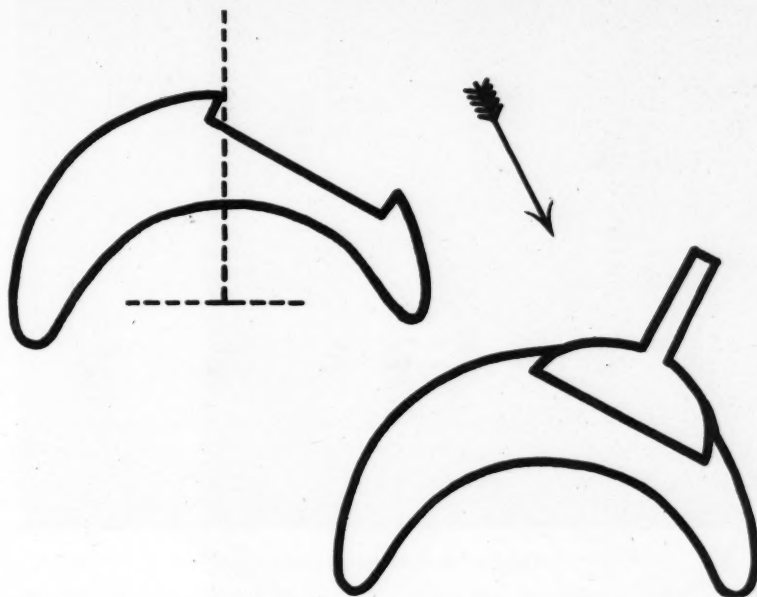


Fig. 4—The wax pattern.

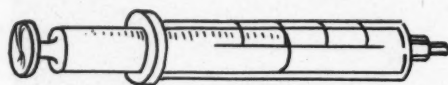
1-inch sphere, slightly compressed in vertical dimension, and slightly expanded horizontally.

2. The wax cup is trimmed on its periphery to conform to the triangular outline of the posterior wall of the socket mentioned under "Anatomic Factors." It should be observed that the edges of the prosthesis accommodated by the inferior and nasal fornices are of lesser thickness than those accommodated by the superior and temporal fornices. It is

extremely important to relieve the wax adequately to compensate for the tendon of the superior oblique muscle which is found in the superior nasal position. Failure to observe this cardinal point will result in limited motion of the prosthesis in all directions, will result in tendency of the prosthesis to rotate in its socket, and will cause a sagging of the lower lid due to compensatory pressure. The posterior surface of the prosthesis is made concave, keeping in mind



IMPRESSION
TRAY



SYRINGE

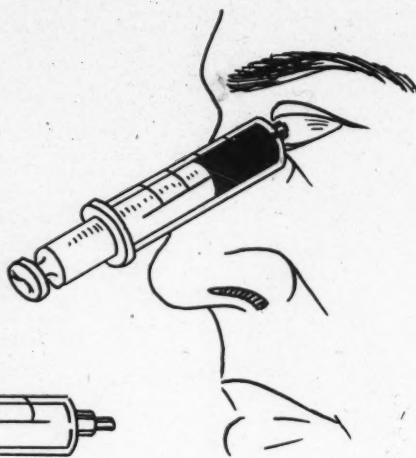


Fig. 5—The injection impression.

that too great a concavity will result in the production of a reservoir for socket secretions, and too little will result in limitation of movement. Ideally, the posterior wall of the socket should barely make contact with the prosthesis in this area. Experience has shown that optimum mobility is produced as a result. Additional relief to accommodate implant-spheres, if present, also should be made at this time.

3. When the wax pattern has been trimmed to shape and size determined by observation of the landmarks mentioned, it may be tried in

the socket. Being moldable at body temperature, the wax will conform itself partly in situ. Carving and finger-shaping, controlled by chilling of the wax in cold water, will assist in this connection. The center of the iris may then be marked in the wax with a suitable instrument.

4. On removal, a circular recess (Fig. 4) is cut into the wax at the position marked for the reception of the iris button. The iris button is then seared in place.

5. The wax pattern is tried again in the socket and such corrections are made as may be necessary to

bring the iris into final position and alinement. Accommodation for the caruncle also is made so as not to suppress secretions from the lacrimal gland. Attention is then further directed toward refinement of the anatomic features already enumerated.

6. A final check of alinement and mobility completes the compression impression technique. It is obvious that universally-shaped blanks of wax, premolded with recess, and placed in stock ready for reception of the iris button and refinement of fitting, can be employed to facilitate this step of the procedure.

Injection Impression Technique

1. Alginate impression material is mixed of somewhat thinner consistency than that used for dental impression taking. The material is spatulated for approximately one minute; the temperature of the water used is preferably 70° to 80° F. Five cubic centimeters of the material placed within the syringe is sufficient for the socket of average size. The B-D Yale-lock type Luer syringe (5 cc.) with the hub-lock removed is especially convenient to use.

2. With the patient looking straight ahead in distant vision, the hub of the syringe is placed within the palpebral fissure and the material is injected into the socket (Fig. 5). For convenience, a curved perforated impression tray of wax or plastic placed over the nozzle of the syringe may be used to establish normal contour to the upper and lower lids. Before the impression material has set completely, the syringe is withdrawn and after three minutes the impression is removed. It is placed immediately in the fixing solution which accompanies the alginate material. After remaining in this solution for at least fifteen minutes it is invested in stone as described in the section on molds.

3. From this mold a basic wax form must then be made which is altered in conformity with individual requirements. It must be remembered, however, inasmuch as the injection impression technique is the method of preference for use in malformed

and mutilated sockets, that the anatomic landmarks described may be lost or obscured by the registration of various deformities. An attempt is made, of course, to produce a prosthesis of average shape, but frequently compromises must be made and one feature played against another in order to accomplish an acceptable result. Herein lies the principle value of the method just described in that it copies perfectly such irregularities as must be dealt with in producing the optimum form for the deformed socket.

The Mold—1. Artificial stone is recommended to give the mold the necessary hardness. The wax model should be flaked with its posterior surface toward the base. Care should be taken to prevent undercuts.

2. The stem of the button is then covered with petrolatum and the upper half of the flask is poured. After separation and removal of the wax, the iris button is lifted out carefully and the entire mold is tin-foiled. The iris button is then replaced and the mold is ready for packing of the sclera plastic. After packing, the sclera plastic is cured in either boiling water for an hour or in dry heat at 76°C. for three hours.

3. Should the injection impression technique be used, it is necessary to form a wax pattern from a similar mold, omitting, of course, the extra steps involving the iris button. From this point on, the two techniques are identical. The wax is tailored by trial in the socket and the iris button embedded.

The Sclera—1. The colors of the sclera are manifold. Zinc oxide and titanium dioxide are most desirable opacifying agents and function, no less importantly, as whitening agents. The delicate grayish appearance of the sclera is effected by a balanced combination of zinc oxide and ivory-black powder pigment on the polymer granules.

2. The basic scleral shade is modified by the addition of minute amounts of pigment which function subtly. Five powder colors are used for this purpose: brown, yellow, green, blue, and gray. With these, by

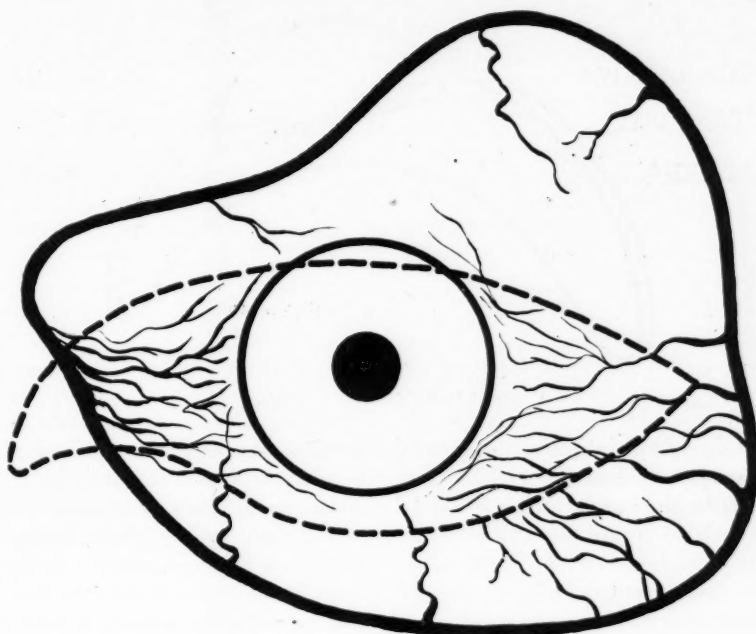


Fig. 6—The blood vessels of the sclera.

formula, a scleral shade guide is composed of the shades mentioned. Various combinations may be produced by cross-blending or dilution with additions of the basic unpigmented shade. The correct scleral shade is selected by comparison with the actual basic color of the sclera as seen superior and inferior to the iris. Experience has shown that the most nearly universal shade is a combina-

tion of the green and yellow mixtures.

3. Assuming now that the scleral part has been processed around the iris button, the stem is removed and the anterior surface only of the prosthesis is polished with pumice, taking particular care to establish a proper corneoscleral juncture, or limbus. If it should be desired to increase the apparent diameter of the iris or

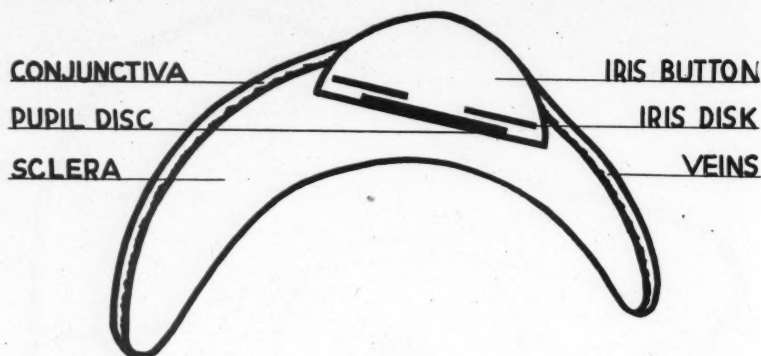
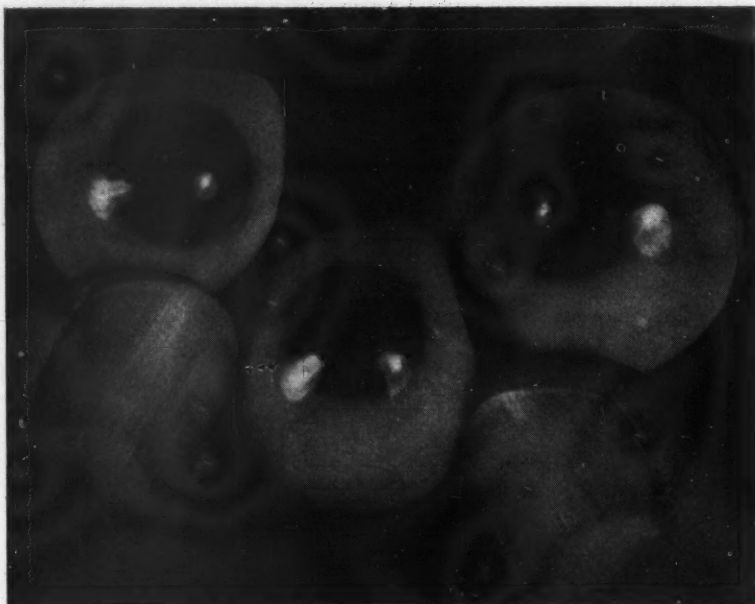


Fig. 7—The finished prosthesis.

to decrease the depth of the anterior chamber, the limbus is polished back a little. More of the limbus is allowed to remain toward the medial canthus in order to center the pupil slightly in that direction, which is anatomically correct. The posterior surface of the prosthesis is allowed to remain unpolished in order that it may be re-located in the mold for processing of the conjunctiva. The restoration is now ready for the application of the veins.

Veining Technique—For this purpose red rayon threads are employed. Having selected the proper color, a small sample of the fiber is separated into its monofilaments. By directly observing the degree of veining the pattern of the veins is followed as to their number and various diameters. The

diameter of a single vein is increased by running two or more monofilaments together. Realistic venous ramifications may be attained by adroit application. An alcohol-chloroform solution is used to tack the fibers into their different designs—straight, tortuous, sinuous, or any combination thereof (Fig. 6). The veins with which we are concerned particularly arise, essentially, from the direction of the medial and lateral canthi and terminate on reaching the limbus or before. Interrupted venous courses may be effected by breaking the continuity of the veins by cutting them in short lengths. In order to effect the structureless and delicate capillary beds red oil pigment may be delicately and sparingly applied. Similarly, oil colors of brown or yellow

are applied by the finger tip in order to produce the characteristic surface pigmentations toward the medial and lateral canthi. A slight reddish tinge is also produced at the nasal aspect where occasionally this margin is visible during extreme lateral excursions. It is now ready for the application of the clear layer which is comparable to the conjunctiva.

The Conjunctiva—1. The button stem which was removed deliberately during polishing of the sclera is re-inserted into its proper position in the original mold. The mold is then re-tin-foiled.

2. With the prosthesis now in position in the posterior half of the mold, a mixture of clear plastic dough is made and thinned out to wafer thickness. When its surfaces are no longer tacky to the touch, it is placed over the anterior surface of the prosthesis and the flask is then closed with spring pressure. Test-packing is seldom necessary. The case is cured at the usual temperature.

3. Application of the clear plastic overlay representing the conjunctiva in this step must be carried forth carefully. The use of heavy closing pressure, or of resin dough which is not of proper consistency, may result in scrubbing off the applied veins and surface pigments or may craze the clear plastic of the iris button. The monomer-polymer mixture also has been used successfully as a dipping solution to develop the overlay of plastic representing the conjunctiva.

Polishing and Fitting—1. Final polishing is effected with arbor chucks, pumice, tripoli, and polishing wax (Fig. 7). The prosthesis, if carefully made, will require only minor adjustment on insertion. Attention should be directed toward relief of possible impingement on the caruncle, toward obtaining proper alignment, and for producing contours on the corneal part which must reflect high lights of identical number, size, and position with respect to the pupillary aperture when compared to the eye of the opposite side. This latter is extremely important, and the cosmetic success of the restoration greatly depends on it.

2. Fine adjustment of peripheral contour should be carried out only after the patient has worn the eye for at least several hours, inasmuch as some time is required for final equilibrium of tissues to be established after reception of the restoration.

3. Insertion is made with a drop of mineral oil, and final instructions are given the patient as to the proper care of the prosthesis and the eye socket (Fig. 8). It has been noted that many patients will wear prostheses for several weeks or months at a time without removal. Such well fitted restorations when removed for inspection reveal sockets that are clean and with good tissue tonus. Although this practice is not recommended, it is felt that it speaks well for factors of comfort and compatibility of acrylic resin in contact with tissue over long periods.

Comments

The technique described is not to be considered in its final form at this time, as there are several aspects of this work yet to be investigated. These are concerned principally with still further reconciling custom-built fea-



Fig. 8—Patient before and after delivery of prosthesis.

tures with those of standardization, so that fabrication may be facilitated without sacrificing the advantage of

meeting the individual requirements of every patient no matter how complicated the problem.

Therapy of Acute Leukemia

O. SCHARFF (*Wiener klinische Wochenschrift*, Vienna, April 7, 1944) reports good results with sulfathiazole therapy in three cases of severe necrosis of the oral mucosa and septic agranulocytosis, in the presence of chronic lymphadenitis in one, with acute myelosis in another, and with agranulocytosis in the third.

The first patient, a man aged 44, was given 6 grams of sulfathiazole the first day and 4 grams for the two following days. The acute septic leukemia with its immediate threat to the patient's life gave place to chronic lymphadenitis complicated by this septic condition. Death occurred from the primary chronic disease four

months later. Recovery from acute myelosis, developing in the second case from chronic myelosis and combined with a large tumor of the spleen, was obtained with 8 grams of sulfathiazole on the first and second days and of 4 grams on the third day. The early stage of chronic myelosis was restored and the patient, a man aged 37, was dismissed free from complaints. The third patient, a man aged 33 with septic agranulocytosis, was cured by two courses of sulfathiazole treatment. The first consisted of 8 grams of sulfathiazole for three days and of 4 grams for one more day. The recurrence of the acute condition required a second course.

The rapid disappearance of the severe necrosis of the oral mucosa in all three cases and of the prepuce and the tympanic membrane in the second case was striking. The cure of the septic condition is to be considered as the result of the sulfathiazole treatment, inasmuch as acute leukemia or septic agranulocytosis does not subside spontaneously. The same good results obtained in these three different cases suggest a relationship between the three pathologic conditions.

—From Current Medical Literature, *Journal of the American Medical Association* 128:694 (June 30) 1945.

Note to Readers

THROUGH an oversight THE DENTAL DIGEST neglected to state that the article, SCIENCE VERSUS TECHNIQUE, that appeared in the August 1945 issue, was published by permission of the copyright owner, Mr. Harry L. Page.

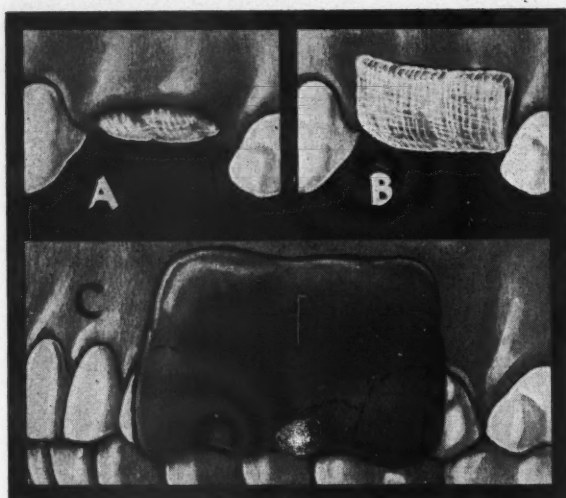


Fig. 1

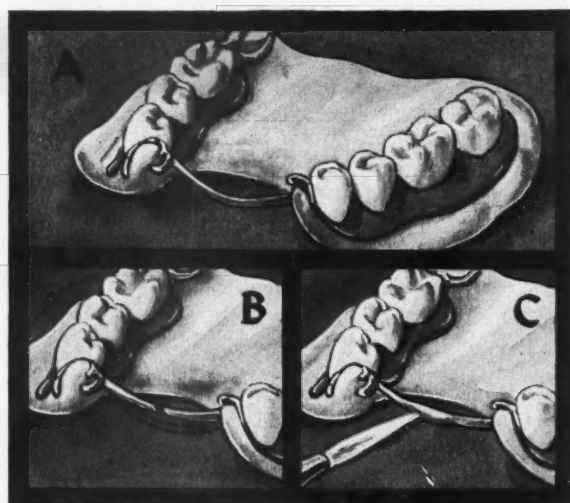


Fig. 2

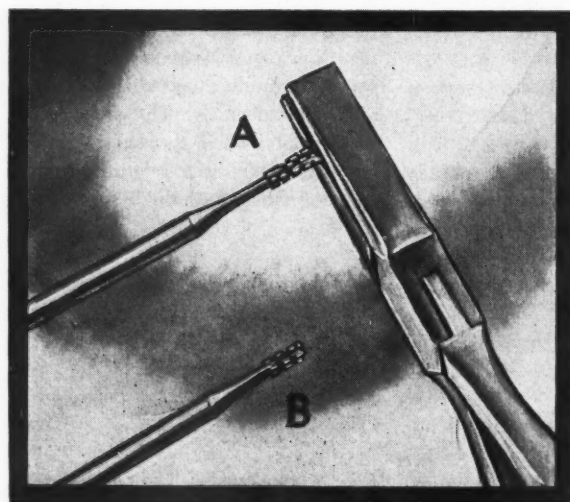


Fig. 3

Applying Penicillin to Tooth Sockets

Harry Maeth, D.D.S., Mosinee, Wisconsin

Fig. 1—(A) Place the penicillin dressing into the extraction wound, and (B) cover it with a piece of dry gauze dressing. (C) Place soft modeling compound over the dry gauze dressing and mold the compound into a suitable shape. While the compound is soft, have the patient register the occlusion. A splint thus formed will exclude saliva from the penicillin dressing and also will aid in the control of postoperative bleeding.

Quick Repair or Adjustment of a Lingual Bar

William Gray, D.D.S., Putnam, Connecticut

Fig. 2—Lingual bars that impinge on the soft tissue can be repaired or adjusted quickly and easily by the following method: (A) A stone cast is poured into the lingual bar, engaging the saddles and clasps but leaving the bar free. (B) After the stone has set, the lingual bar is cut through the middle with a safeside disc and is moved back sufficiently to clear the tissue. (C) The lingual bar then is soldered quickly and easily with the use of a gas-oxygen blowtorch.

An Instrument for Removing Amalgam Restorations

J. Meade Bowman, D.D.S., Knoxville, Tennessee

Fig. 3—(A) Break the end from a crosscut fissure bur (an old one will do) with flat-nosed pliers. The more irregular the break, the better. (B) The broken bur will cut the old amalgam rapidly and will not become clogged with debris.

Readers are Urged to Collect \$10.00

For every practical clinical or laboratory suggestion that is usable, THE DENTAL DIGEST will pay \$10.00 on publication.

You do not have to write an article. Furnish us with rough drawings or sketches, from which we will make suitable illustrations; write a brief description of the

Controlling Distortion In Upper Anterior Roentgenograms

John Allen Corey, D.M.D., Portland, Oregon

Fig. 4—(A) shows the method which is used most frequently for taking roentgenograms of upper incisors and cuspids. The resultant distortion of the roentgenogram can be attributed to the excess pressure placed on the film by the patient. (B) By placing a cotton roll anterior to the film, the distortion is eliminated. The cotton roll acts as a stabilizer and also as a splint to prevent bending of the film.

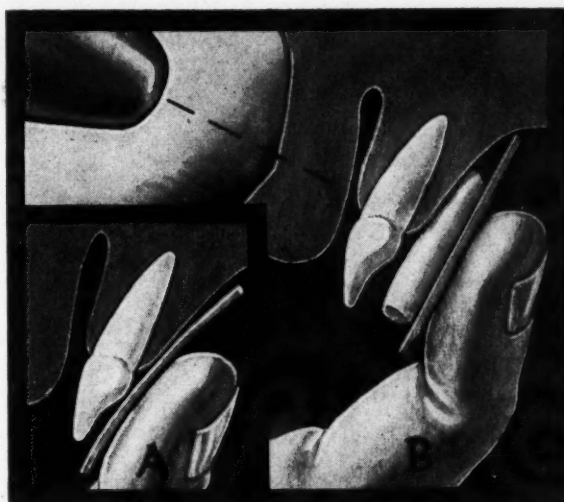


Fig. 4

Spruing Wax Patterns

Lieutenant W. J. Sunderman (DC) USN, St. Louis*

Fig. 5—Wax patterns can be sprued safely and securely by the following technique: (A) Make an indentation in the wax pattern with a sharp chisel and fill it with sticky wax. (B) Apply a hot sprue wire to the sticky wax, and blow air on the wire, directing the air away from the wax. (C) To add a reservoir for centrifugal casting, slide a prepared wax reservoir up the sprue wire to within $\frac{1}{8}$ inch of the pattern. Add the necessary wax between the pattern and the reservoir, using lower-fusing, pink wax.

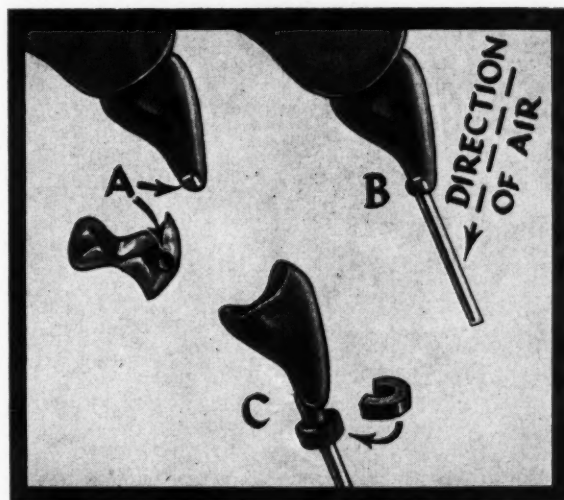


Fig. 5

An Economical Method of Removing Surplus Powder from a Slab

Captain Lewis Weisbrod (DC) AUS, Oakland, California

Fig. 6—Surplus powder on a cement slab usually is lost in the attempt to pour it back into a small-mouth container. If a furrow is ground in the slab, using a heatless stone, none of the powder will be lost. The groove should be about $\frac{1}{2}$ -inch wide and $\frac{1}{4}$ -inch deep, and should narrow progressively toward the edge of the slab. Pumice thoroughly to obtain a smooth surface.

(Continued on page 568)

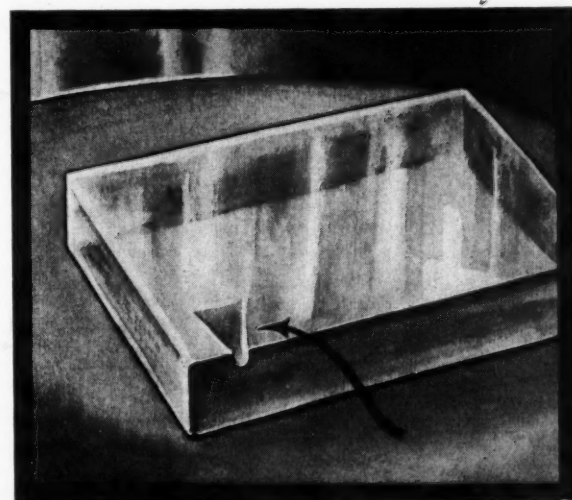


Fig. 6

*The opinions or assertions contained herein are the private ones of the writer and are not to be construed as official or reflecting the views of the Navy Department or the Naval Service at large.

technique involved; and jot down the advantages of the technique. This shouldn't take ten minutes of your time.

Turn to page 573 for a convenient form to use.

Send your ideas to: Clinical and Laboratory Suggestions Editor, THE DENTAL DIGEST, 708 Church Street, Evanston, Illinois.

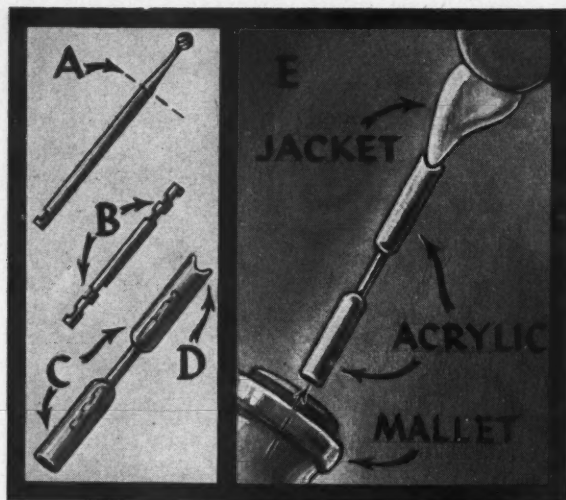


Fig. 7

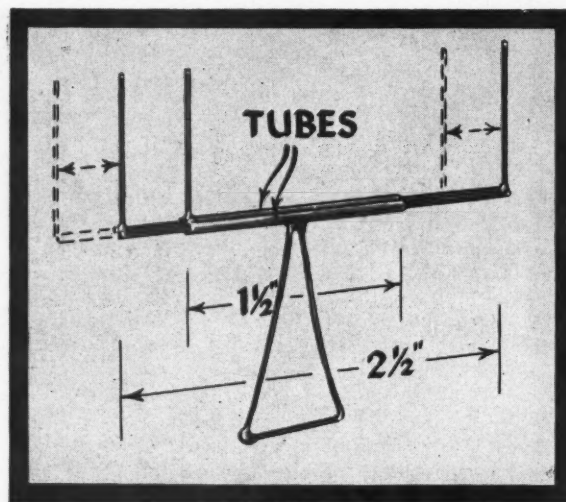


Fig. 8

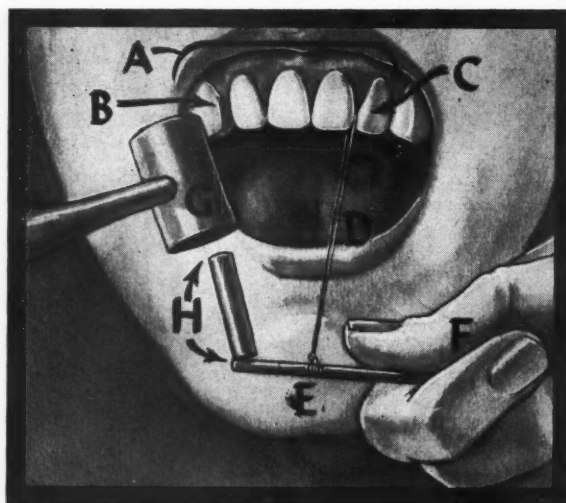


Fig. 9

An Instrument for Use in Cementing Acrylic Crowns

Major Ford W. Stevens (DC) AUS, Fort George G. Meade, Maryland

Fig. 7—An acrylic crown usually is seated by one or two sharp taps with a small mallet on an orangewood stick. The wood splits more often than not. A metal and acrylic instrument that will not break and that can be cold sterilized can be made as follows: (A) Break or cut an old bur at the indicated point. (B) Notch the shank of the bur at each end. (C) Mold pink baseplate wax over the notched ends, and (D) make a groove in one end. Flank and replace the wax with acrylic resin, process, and finish. (E) shows the instrument in use.

A Parallelometer for Use in Operative Procedures

A. H. Kurzrock, D.D.S., Newark, New Jersey

Fig. 8—The appliance shown is made of 21-gauge stainless steel orthodontia wire. The horizontal bars with the two vertical uprights at the ends slide in tubes. (If half round or square tubing is used, only one tube and one wire are necessary inasmuch as there will be no rotation of the uprights.) This adjustable mechanism can be used in any position in the mouth to determine parallelism of abutments.

Removing a Fixed Bridge

C. H. Woodworth, D.D.S., Mexico City

Fig. 9—(A) represents a fixed anterior bridge, with the cuspid abutment (B) loose. The casting from the abutment (C) must be loosened from the tooth to permit recementation of the bridge. Steel wire (D) is engaged between the abutment and the approximating pontic (C), and the wire is looped around an instrument (E) which is gripped firmly and with downward pressure (F). Several light blows with a mallet (G) on the instrument (E) or on an interposed second instrument (H) will loosen the bridge.

A Rubber Abrasive Wheel for Relieving Dentures and Polishing Gold

Frederick H. Doner, D.D.S., Watertown, New York

Fig. 10—(A) Flatten the eyelet in the center of a number 1080 Eberhard Faber typewriter eraser with a hammer, and center the eraser on a long-headed screw mandrel. The resultant rubber wheel can be used for relieving dentures and for polishing gold restorations. (B) When the rubber is worn to the metal center, remove the metal and replace it with a small, coarse sandpaper disc on each side. The cutting edge of the wheel may be shaped as desired by revolving it against a vulcanite file.

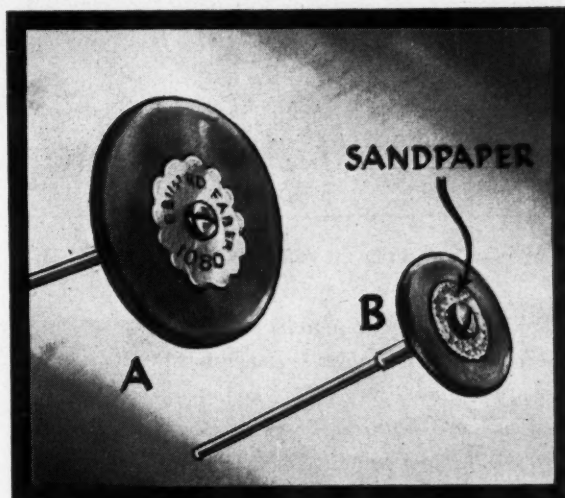


Fig. 10

Preparation of a Tray for a Hydrocolloid Impression

Louis Berman, D.D.S., New York

Fig. 11—Place a rim of molding clay $\frac{1}{4}$ to $\frac{1}{2}$ inch above the short flanges in the posterior region of the tray to confine the hydrocolloid to the tray (instead of letting it run over the sides) and to build it up to sufficient height. The molding clay is removed after the hydrocolloid is tempered properly and before insertion in the mouth. The impression can then be taken with the assurance of having sufficient hydrocolloid material.

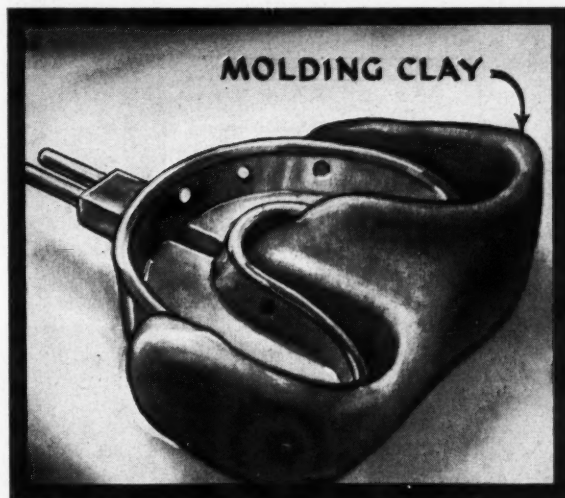


Fig. 11

Root Canal Medicament Dropper

R. Gottormsen, PhM 2/c (WR) USN, Bethesda, Maryland*

Fig. 12—Fuse a 26-gauge platinum hypodermic needle into the end of the glass of a dropper from a cement liquid bottle. The needle must be platinum inasmuch as glass will not fuse to a steel needle. Medicaments may be applied directly into a root canal neatly and without wastage with a dropper made in this fashion.



Fig. 12

Staining of Acrylic Jacket Crowns and Pontics

Captain S. MAYO SILVERMAN (DC) AUS

The use of colored pencils in the necessary basic shades is suggested for staining acrylic jacket crowns and pontics. The resultant stain is permanent because it is embedded in the acrylic.

THE USE of acrylic resins for jacket crowns and bridge pontics is becoming increasingly popular in dentistry. The technique described here is extremely simple to execute, consumes but little time, and produces pleasing esthetic results.

Selection of Basic Shade

In the selection of the basic shade, every attempt should be made to duplicate all the shades of enamel present in the tooth being restored and to make a faithful anatomic reproduction of all individual contours and anomalies of the tooth crown.

Preparation for Staining

1. Complete the crown and fit it to the tooth. Check the margins, contact points, and anatomy as if the crown were ready for cementation without staining.
2. Select the areas to be stained on the jacket crown and, using a fine stone moistened with water, remove the glaze from the surface where the stain is to be applied. Binocular loupes are a help in this step, which can best be done with the jacket crown in the mouth and causes no discomfort to the patient.

Materials for Staining

There are many materials that can be used for staining acrylics by this technique because the stain is embedded and protected by clear acrylic. Oil paints or India inks are good

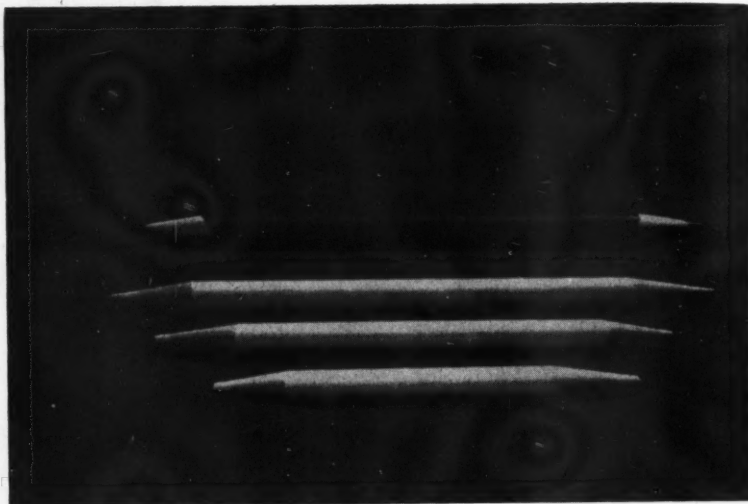


Fig. 1—Pencils of the four basic shades, with one end blunt and the other pointed, used to stain the acrylic jacket crown.



Fig. 2—Pencil stain applied to the acrylic jacket crown.

but are hard to control without extensive practice. A set of Mikado col-

ored pencils provides all the necessary basic shades for staining, and an

error can be removed easily with a revolving dental stone.

In preparing the pencils it is well to have them sharpened on both ends, one end with a sharp point for fine lines and the other blunt for heavy lines and color blends (Fig. 1).

Application of Stain

Apply the stains with the colored pencils as indicated in Figure 2. Tobacco stain, enamel cracks, discolored silicates, fluorine stain, or any apparent color irregularity present in adjacent teeth, can be duplicated quickly. It is helpful to keep the jacket crown dry while it is being colored in the mouth. Satisfy yourself that the staining is satisfactory and remove the acrylic jacket crown from the mouth, place a temporary covering over the preparation, and dismiss the patient.

Laboratory Technique

1. Fill the inside of the acrylic crown with regular oxyphosphate cement (Fig. 3). In the case of an acrylic pontic this step is, of course, not necessary.

2. Invest the crown in the flask with the part to be stained facing upward (Fig. 4).

3. Burnish tin foil or an x-ray film backing, pour the upper half of the flask, and allow the plaster to set (Fig. 5).

4. Separate the two halves of the flask, and sprinkle dry clear acrylic powder over the entire face of the crown and moisten with monomer. Close the flask and process for one hour at approximately 160° F. Cool and remove the crown.

5. Inasmuch as the crown has already been virtually completed, only a little polishing is necessary. Polish lightly with fine pumice on a wet rag wheel, and follow this with dry chalk or tin oxide.

6. Soak the crown in 10 per cent cold hydrochloric acid to remove the oxyphosphate cement core. Neutralize in bicarbonate of soda, wash, and place the crown over the preparation.

The finished crown should be pleasing in appearance and the stain should be permanent because it is embedded in the acrylic.

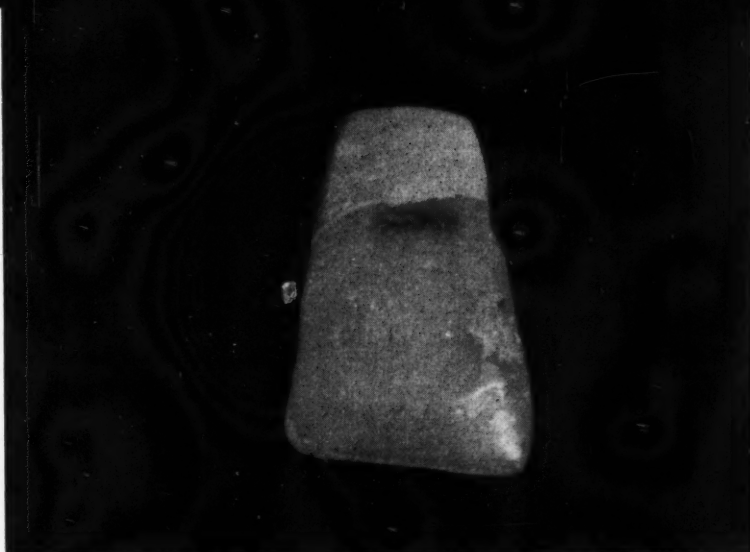


Fig. 3—Oxyphosphate cement core inside acrylic crown.



Fig. 4—Acrylic crown invested, with stained part facing upward.

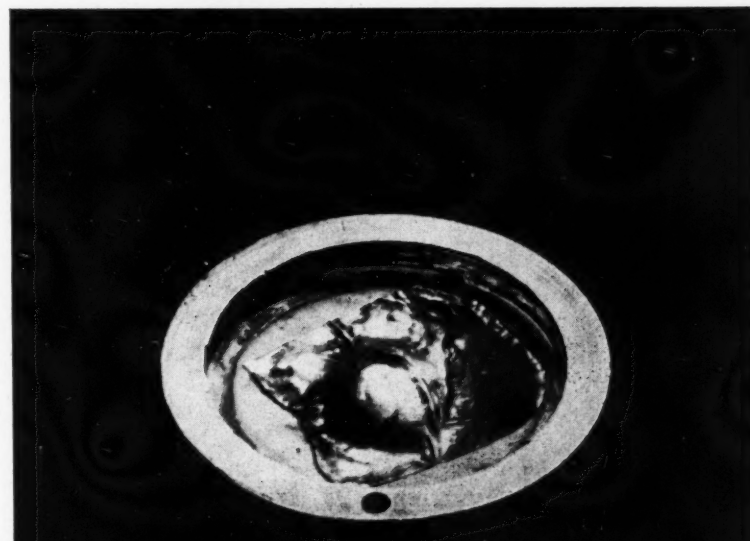


Fig. 5—Tinfoil matrix in place with case ready for flasking.

The Editor's Page

LEUKEMIA is a grave and hopeless disease at our present level of knowledge. In one case out of twelve, a relation exists between dental procedures and leukemia, according to a careful analysis made by Barnfield.¹ There is a particular danger in tooth extraction in leukemia: An exacerbation of a low grade leukemia may result in death. Barnfield lists four types of conditions about the mouth that may be signs of the leukemic state:

1. Swelling of the lymph nodes that drain the teeth and contiguous structures.
2. Gingivitis and changes in the periodontal membrane.
3. Exacerbation of chronic periapical abscesses.
4. Toothache caused by the infiltration of the pulp by leukocytes.

Although dental procedures are not considered the cause of leukemia, faulty dental diagnosis and inopportune treatment may aggravate an existing leukemia. It is not known whether it is a bacterial disease or a kind of neoplasm. The disease is characterized by a marked increase in leukocytes and a decrease in red cells. The sufferer from leukemia often dies of an infection against which he has lost all powers of resistance.

Both the acute and chronic forms of leukemia may first manifest themselves by signs in the mouth. In the acute form the mouth conditions may be mistaken for acute gingivitis, Vincent's infection, or ordinary pulpitis. Barnfield describes four characteristics of acute leukemia that may produce oral manifestations: hemorrhage into or under the mucous membrane; lowered resistance to infection; anemia; and infiltration of leukocytes into the tissues.

In chronic leukemia Barnfield quotes Love as observing that the symptoms may be confused with those attributed to diseases caused by foci of infection: "Infected teeth are removed, and rightfully, in the treatment of chronic diseases associated with streptococcus, such as proliferative arthritis. Likewise the extraction of teeth, either peri-

odontally or periapically infected, is sometimes suggested as a general measure to improve the health of patients suffering from anemia, loss of weight, and loss of strength. The possibility that these symptoms might be signs of chronic leukemia is overlooked."

Chronic leukemia may simulate the symptoms associated with foci of infection. This is because in leukemia the patient develops a hypermetabolism which produces sweating, nervousness, and fatigability. Weakness follows the anemia. The enlarged spleen gives the sensation of weight in the abdomen.

In summing up, Barnfield says:

"The relation between dental operations and the systemic disease has two aspects:

"a) The leukemia becomes more acute in approximately half of the patients who undergo dental operations. Oral lesions nearly always become more conspicuous and sometimes destructive following extraction in acute leukemia. Stomatitis often follows extraction in chronic leukemia. Dental operations performed on patients with leukemia may, however, be unrelated to the systemic disease.

"b) Because signs of leukemia are sometimes misinterpreted as being of dental origin, dental procedures are performed. Of sixteen reports in which the reason for performing the procedure was clear, in fourteen, and also in seven of the studied cases, procedures seemed to have been performed because of the signs and symptoms of leukemia. Patients with early leukemia often consult the dentist before the physician.

"Two possible relations of leukemia to dental disease are suggested: (a) Lowered resistance to bacterial invasion because of leukemia may become manifest by recrudescence of chronic dental abscesses. (b) Leukocytic infiltration of the dental pulp may cause toothache in leukemic patients."

Dentists should be more familiar with the newer knowledge in hematology. It would be worthwhile if more about the blood and its dyscrasias appeared in the dental literature and if more attention were given to the subject in dental programs.

¹Barnfield, W. F.: Leukemia and Dental Procedures, *Am. J. Orthodont. and Oral Surg.* 31:329 (June) 1945.

DENTAL MEETING

Dates

American Society for the Advancement of General Anesthesia in Dentistry, Fall Meeting, Hotel McAlpin, New York City, October 22.

Ohio State Board of Dental Examiners, regular meeting, Ohio State College of Dentistry, October 22-24. Examination for Dental Hygienists will be held October 23. For information write to Doctor Earl D. Lowry, Secretary, 79 East State Street, Columbus.

California State Board of Dental Examiners, regular meeting, San Francisco, commencing October 22; in Los Angeles, commencing December 17. For information write to Doctor Kenneth I. Nesbitt, Secretary, 515 Van Ness Avenue, San Francisco.

Montreal Dental Club, twenty-first annual Fall Clinic, Mount Royal Hotel, October 24-26.

Odontological Society of Western Pennsylvania, annual meeting, William Penn Hotel, Pittsburgh, November 6-8.

Connecticut Dental Commission, regular meeting, Hartford, November 6-10. For information write to Doctor C. G. Brooks, Secretary, 302 State Street, New London.

Pennsylvania State Dental Society, annual meeting, May 7-9, 1946.

CLINICAL AND LABORATORY SUGGESTIONS

Form to be Used by Contributors

To: Clinical and Laboratory Suggestions Editor
THE DENTAL DIGEST
708 Church Street
Evanston, Illinois

From: _____

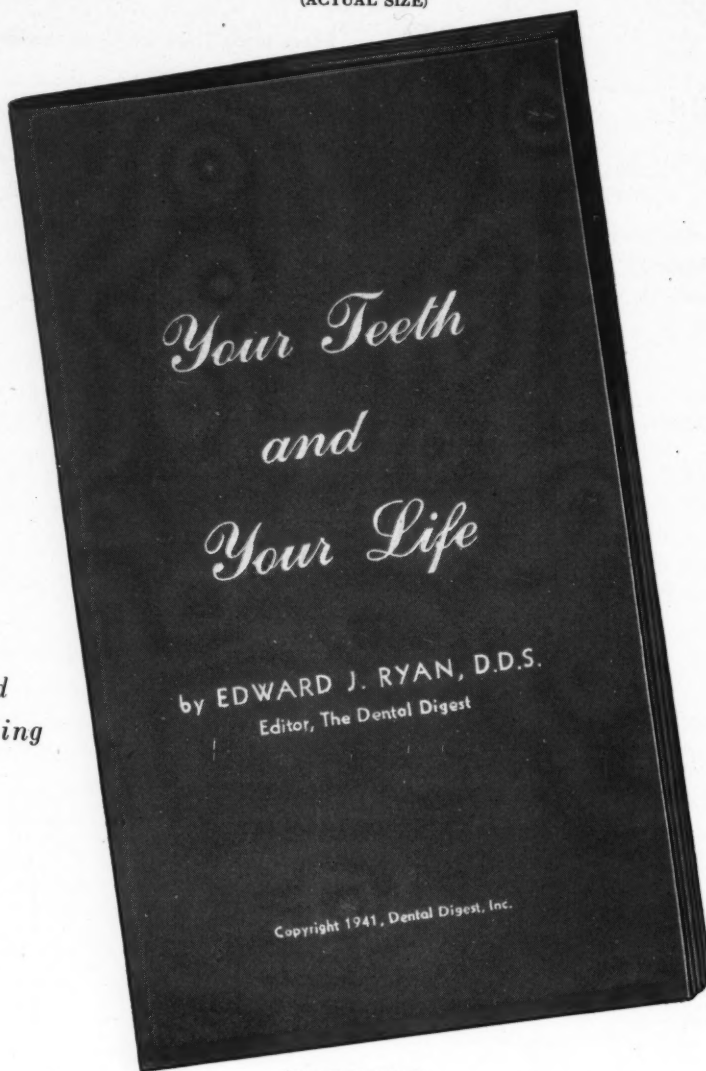
Subject: _____

Explanation of Procedure:

Sketch:

\$10 will be paid to author on publication of accepted suggestion.

(ACTUAL SIZE)



Over 200,000
Copies Sold

*Third
Reprinting*

(ACTUAL SIZE)

EVERY DENTIST

Can Use This Ethical Pamphlet in
Patient-Education Programs

Clip this
form and
paste on your
envelope.
No postage
necessary.

FIRST CLASS
PERMIT NO. 1158
(SEC. 510 P. L. & R.)
PITTSBURGH, PA.

BUSINESS REPLY ENVELOPE

NO POSTAGE STAMP NECESSARY IF MAILED IN THE
UNITED STATES

POSTAGE WILL BE PAID BY

DENTAL DIGEST, INC.

1005 LIBERTY AVENUE

PITTSBURGH 22, PA.

Att: Mr. R. C. Ketterer

We have enthusiastic comments from hundreds of users of the pamphlet **YOUR TEETH AND YOUR LIFE** but here is one from a practitioner who has been using the material for some time: "I am enclosing check for \$9.00 for 300 copies of **Your Teeth and Your Life**. I surely hope you have some left as I have been selling a lot of dentistry with this material which I have been using for some years."

Some of the suggested uses for **YOUR TEETH AND YOUR LIFE** are illustrated on the right. There are other uses such as distribution to Parent-Teacher groups and enclosure with patient recall cards. These are the main avenues of distribution of this ethical, educational pamphlet.

The pamphlet is illustrated with ten charts printed in two colors which tell the essential story of the value of proper dental care and the dangers of neglect. This is the third reprinting . . . over 200,000 copies have been distributed to date.

We feel that you will want to use this material in your patient-education program once you see it and realize its possibilities. Why not order a trial quantity of 25, the cost of which is only \$1.00.

Prices are low: 25 for \$1.00 — 100 for \$3.00.

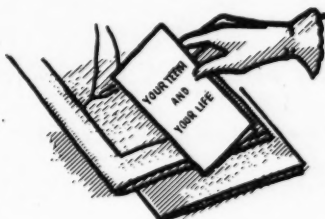
The Dental Digest
1005 Liberty Avenue, Pittsburgh 22, Pa.

Here is \$.....covering.....copies of **Your Teeth and Your Life**.

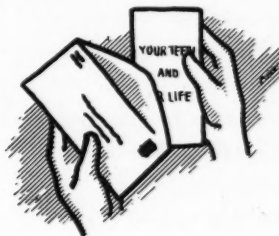
Dr.

Address

Dealer



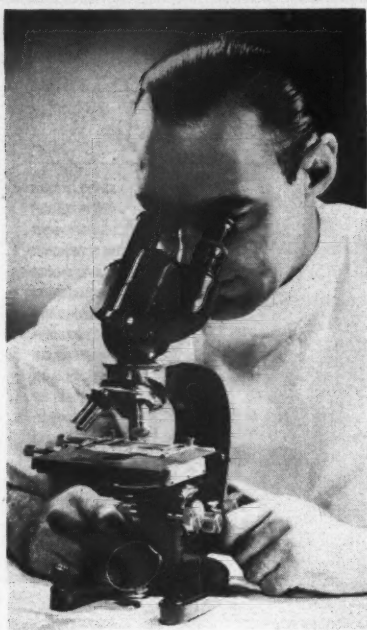
RECEPTION ROOM USE



STATEMENT ENCLOSURE



HOME USE



If you could examine Time-losses with a Microscope

... the momentary time losses due to operative pain and patients' nervousness would look *big* at the end of a month. McKesson pain control converts these lost hours into operative time. The calm, relaxed, cooperative patient is easier to handle and permits a dentist to do his best work. McKesson nitrous oxide pain control can save you *time* and conserve your *energy*.

We shall be glad to tell you what McKesson nitrous oxide analgesia and anesthesia is doing for other dentists—and what it *can* do for you.

NARGRAF



EASOR

EUTHESOR

Contra- Angles



Down to Pleasant Valley . . .

The novelist, Louis Bromfield, returned from years in Europe to establish a home in the rolling northern Ohio countryside, in a valley rich in his boyhood memories. With Howard Hartman and Tom McDermott of Cleveland, and Earle Craig of Pittsburgh, I recently spent a pleasant afternoon visiting Bromfield. He is no slick gentleman-farmer sitting on a veranda in fancy jodhpurs and white polo shirt. Bromfield is an earthy farmer—lean, bronzed, and capable, who can take a hand at the plow with the best of his workers. His interest in soil and forest conservation and agricultural reform is not the interest of a dilettante who wants something to bring his name to the attention of the public. Bromfield was born on a farm and was trained in agriculture at Cornell before he became an outstanding novelist and journalist. With his widespread success, he could be a country club gadabout, a speaker on sugary subjects before women's clubs. He does not sit back in his Pleasant Valley to enjoy his own wealth, but chooses to preach to the people of the country, to the practical politicians, and to the soil scientists, the vigorous doctrine of conservation and reforestation.

After a twenty-five-year absence, Louis Bromfield returned from Europe to find that the American people were despoiling their land: Topsoil was being lost by wind and water erosion; gullies were being cut into the fertile lands; our streams were full of silt; we were a nation of drought and floods. The prairie grasses were gone, cut by the plows of the pioneers. The forests were destroyed by the avaricious logging in-

The Truth
about

AMES

Dental Cements

Most
dentists use
Ames
Cement?



● We know that statement isn't true. Most dentists and dealers who read this know it isn't true. They expect the truth from this company because we never have exaggerated or misrepresented our product or their popularity. So let us say: Most discriminating dentists use Ames Cement.

The W. V-B. Ames Company
Fremont, Ohio

ALL STEEL CARD FILES

FOR 5" x 8" RECORDS
FOR 4" x 6" RECORDS

One, Two and Four Drawer Units

THE FIRST ALL-STEEL
CARD FILES AVAILABLE
SINCE BEFORE THE WAR

A LIMITED QUANTITY
AT CEILING PRICES

OFFERED SUBJECT TO PRIOR SALE
PRICES AND ILLUSTRATED LEAFLET

FREE ON REQUEST

WE SERVE OVER 50,000 DOCTORS

**PROFESSIONAL
PRINTING COMPANY, INC.**

AMERICA'S LARGEST PRINTERS
TO THE PROFESSIONS

15 EAST 22nd STREET NEW YORK 10, N. Y.



Portrait of a Pioneer

Meet *Para-Aminobenzoyl-Diethyl-Amino-Ethanol-Hydrochloride*; known also as *Procaine Hydrochloride*, but better and more popularly known as **NOVOCAIN!**

IN 1905 came the long-awaited dawn of a new era in local anesthesia. Einhorn had synthesized Novocain! Gone were the toxic, habit-forming hazards inherent in cocaine — gone in favor of a new synthetic which today (40 years later!) is still the uncontested standard by which injectable anesthetics are judged . . . and which formed the basis for every advance in local anesthesia since.

IN 1940 came Novocain-Pontocaine-Cobefrin, another pioneer which was to translate into reality Dentistry's dream of deep, prolonged, profound anesthesia without added vasoconstriction. Science had discovered that Pontocaine, a drug chemically related to Novocain, acted with such penetrating persistency that even a minute* amount in a standard 2% Novocain solution yielded the character of anesthesia frequently indicated in modern practice.

*only fifteen one-hundredths (0.15) of one percent!

NOVOCAIN-PONTOCAINE-COBEFRIN

60,000,000 Injections
Attest Its Reliability

COOK-WAITE
Laboratories, Inc.

Pontocaine, Novocain, Cobefrin are Reg.
Trademarks Winthrop Chemical Company, Inc.

170 Varick Street, New York 13, N. Y.
Laboratories: Wheeling, W. Va. & Springville, N. Y.

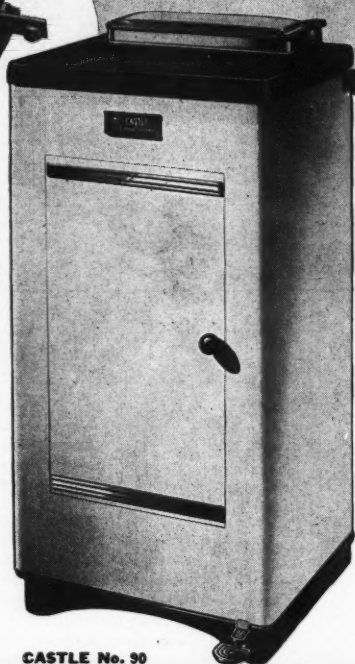
Special Heating Units

PUT EXTRA VALUE IN *Castle*
STERILIZERS



The real secret of Castle Sterilizers' continuous success with the dental profession lies in the heating unit which Castle has engineered exclusively for its own sterilizers. It is a one-piece, double-wound unit scientifically designed to give years of trouble-free performance . . . with little or no attention from the busy doctor or nurse.

If repairs are ever necessary, the complete heating unit is replaced in 5 minutes . . . at low cost . . . so there is never a mixture of new parts and old to cause minor breakdowns. For further details of Castle Sterilizers and their lifetime service, write: WILMOT CASTLE CO., 1109 University Ave., Rochester 7, New York.



CASTLE No. 90

Castle

LIGHTS AND
STERILIZERS

terests. The dense mat of undergrowth was burned away in fires started by careless campers and the sparks from locomotives. The barren land could not catch and hold the rainfall; water ran off rapidly to make floods and to destroy life and property; water could not seep into the underground, there to be stored up to be used in periods of drought. The winds came upon the dry, barren ground and carried away the topsoil. Fish no longer lived in the muddy streams. Birds and small animals had no cover in the underbrush. We were being faced with the same thing that has happened in India, China, and other nations of the world where Man despoiled and destroyed the soil that has been built up over the centuries.

We forgot, or never knew, that all wealth comes from the land—all our food, our clothing, and our shelter. We did not learn from the Indian that "land cannot be sold." The Indian believed that land was the gift of the "Great Spirit" and that it was to be used tenderly and wisely to support the generations unborn. The Indian did not believe that a man could own a tract of land to destroy it as he might see fit. The deserted farms of America, the fields with no life to produce grain, are sorry evidences of how we have pillaged the land. The gulley-scarred fields, the stumps, are signs of our ignorance. A gulley in a field is not merely a problem to the owner of the land; it involves all his neighbors, close by and far away.

USE

LAVORIS

A Refined Habit

Mouth care is a habit — Mouth health the result

Just like a dentist's mirror
to reach more places



**Designed to Reach Every Exposed Surface
of Every Tooth . . . More Easily and Effectively**

"MOUTH-MIRROR ANGLE" of brush head facilitates cleaning hard-to-reach back molars and lingual surfaces of incisors.

SLENDER, STURDY SHANK permits bringing bristles down to gum line while keeping brush in a horizontal position when cleaning lingual interproximal spaces of posterior teeth.

THREE ROWS OF BRISTLES, six properly spaced tufts to the row, provide for effective penetration of interproximal spaces. Hard and medium resiliency. Head, shank and handle of plastic.

SQUIBB ANGLE

TOOTHBRUSH

SQUIBB
A name you can trust

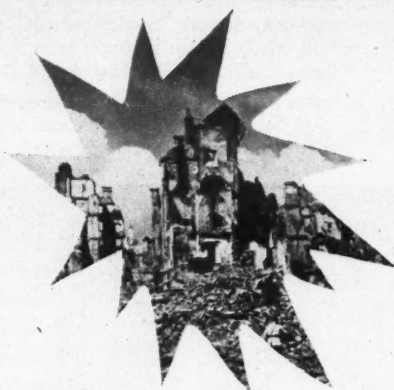
MANUFACTURING CHEMISTS TO THE MEDICAL AND DENTAL PROFESSIONS SINCE 1858

OCTOBER, 1945

579

In your **ORAL HYGIENE** this month

EUROPEAN DENTISTS



NEED YOUR HELP NOW!

... and what they ask is so little!—just old copies of our dental magazines, so that they can learn what has happened in dentistry during the years when their countries were isolated by the War.

Of course *books* on dental subjects, published during the last few years, will be very welcome too. The Medical and Surgical Relief Committee, at 420 Lexington Avenue, New York 17, New York, asks for dental magazines, pamphlets, or books, written within the last five years.

Doctor Herbert Loeb asks that dentists who would like to send their magazines direct to individual Dutch dentists write him at 689 Massachusetts Avenue, Cambridge 39, Massachusetts. He will furnish names and addresses of Dutch dentists. Literature may be sent directly to them at the rate of a pound a week per individual sender. In this case, material should not be over *three* years old.

You will find detailed information in the article on page 1730 of the October issue of *Oral Hygiene*. How about cleaning out that bookcase or cupboard—and making some fellow dentist, half-a-world away, exceedingly happy and grateful?

★ ★ ★

Does the restoration fail—or does the *patient* fail? ... Doctor Fred D. Miller, who has had more than thirty years of clinical experience, believes that often it's the patient who fails to cooperate in a program of diet and care. The article is full of good, sound observations, and well illustrated by actual case histories. You will find it on page 1714.

"Language in the Dental Law," by Nathan Kobrin, D.D.S. (page 1718), warns of the danger of faulty or careless wording in drafting bills and writing laws. He quotes state dental laws which are "ambiguous, confusing, and dangerous," and explains that such laws "undermine the unity and integrity of the dental profession and render it susceptible to unsound experimentation."

★ ★ ★

"Service dentists have formed the opinion that civilian dentists have not manifested the anticipated interest ... in their colleagues in the Dental Corps." This criticism is voiced by a dental officer, not as an indictment of civilian dentists, but as a problem that must be solved. His suggested solution is a program which would not only benefit the Service dentist, but be to the interest of the whole profession. It's well worth thinking about, and acting upon. You will find the article on page 1722.

★ ★ ★

Then there's the interesting article about Russian dentistry—page 1727, and the explanation of the dentist's status under the G. I. Bill of Rights—page 1734, and a brief story about President Truman's personal dentist, Major George M. Arrowsmith (DC)—page 1739 ... There are many short items of special interest, too, and all of the regular monthly departments ... It's a full issue—and a varied one, planned to give you maximum information in minimum reading time.

The thousands of acres that have been destroyed by strip mining without any attempt at reforestation are other signs of our ignorance and our indifference. The stumps of forests that were cut to make paper pulp without any attempt at replanting are other symbols of our greed.

At first it might seem a far cry to associate dental disease with agriculture, but if dental caries, the most widespread disease among men, is in part the result of nutritional imbalance, we can be pretty sure that the land upon which food grows is extremely important in the quality of foodstuff. Lands that have been leached and robbed, from which the minerals have been removed by wind and rain, which no longer have the rich humus upon them, cannot raise plants to feed the bodies of animals or men. The grains and crops that grow upon devitalized land can draw nothing from the earth that possesses no life. If minerals are lacking in the soil itself, plants cannot synthesize a mineral that does not exist. Some of our grains, therefore, have the external appearance of foodstuffs, but inside their hard kernels they are lifeless and devoid of the essential chemical elements, elements that are necessary for tissue growth, development, and repair. Everyone who is the custodian of a piece of the earth, be it a small lot or a vast ranch, should read Bromfield's book, *PLEASANT VALLEY*. From this reading he will develop an affection and a feeling of responsibility to the earth under his custodianship.

In the Ohio countryside many years ago, Johnny Appleseed walked, spreading his philosophy and planting his apple seeds. Now these trees have grown to maturity and produce fruit in abundance for thousands of people to enjoy. Down in the same state, two dentist brothers, Charley and Ed Mills, have distributed seedlings from the great old Treaty Elm. I have some of these seedlings on my own place, sent to me by Charley and Ed. Out in the rolling hills of western Illinois countryside I have some butternut seedlings that I ex-

(Continued on page 585)

(Continued from page 580)

pect to send to Louis Bromfield this coming spring. The exchange of plants and trees and growing things from one part of the country to another is indeed a cultural exchange, more important, perhaps, than many other communications and interchanges between sections.

After visiting with Louis Bromfield and reading his book, I return to my own home on a hillside, to my timber lands and dark bottom lands along the Rock River, with a greater feeling of responsibility and trust. I vow to conserve the topsoil and to rebuild it with organic humus. I vow to fill the gullies that are now laid bare and to prevent others from forming. I vow that for every tree that is removed, another will be replanted in its place. I promise to keep before me the fine words of Horace: "How gladly I return to my woodlands and my little farm that restore me to myself."

Sleep . . .

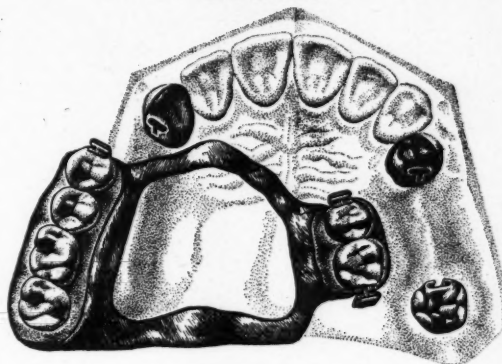
Insomnia is the price that Modern Man pays for his workaday tensions. Dentists, with their confining, precise, difficult work, are as subject to the malady as are other indoor workers. When we lose sleep, we are inclined to be somewhat worrisome about the subject, forgetting that the complicated and wise mechanism of Nature provides that we have the rest and relaxation that our physiologic needs demand.

There is to sleep not only the physiologic component of repairing tissue waste and damage, but there is, too, the psychologic aspect. This is the habit element. We sleep six hours, eight hours, or ten hours, not necessarily because the organism demands this amount of sleep, but because our thought processes, our conditioned feelings, tell us that this is the amount required. It may be that physiologically we need more or less sleep than is required by our psychologic demands. Walter Cannon tells us in *THE WISDOM OF THE BODY* that in the absence of disease, the organism itself knows how much of all things is required and when required.

25 Years of Satisfactory Service

Where Better Practice Indicates
the Use of Precision Attachments
for Removable Restorations * * *Specify*

BROWN PROXIMAL CONTACT ATTACHMENTS



BROWN PRECISION ATTACHMENTS have been used successfully since 1920, when patents were granted to their inventor, Dr. I. Brown. This event followed by only a few years the publicity and impetus that Dr. Herman Chayes gave to the advance in removable restorations by the introduction of the precision type of attachment.

Another Case . . . Where Precision Attachments Are Indicated

The use of Precision Attachments is indicated in this case because they eliminate need of a cumbersome continuous clasp across anteriors from cuspid to 1st bicuspid, which would be required in a clasp case in addition to clasps on the three abutment teeth.



Precision attachments make the case more comfortable to the patient and more esthetic, avoiding the display of unsightly clasps, particularly on the cuspid and first bicuspid.

Send for 12 Design Charts of Attachment Cases with Descriptive and Technical Literature.

So simple, yet so effective and practical are the design and mechanical principles employed in Brown Attachments, that they have defied every effort to improve upon them for 25 years. Except with the addition, about 10 years ago, of the proximal contact type, to give the convenience of a built-in proximal contact, no change in design has been made. The sizes of the Brown Attachment made today are identical with those made 25 years ago—a comforting thought if replacement parts are required.

If you have a doubtful case, send us the study casts in occlusion, and we shall be glad to write you the opinion of our professional consultant as to whether the use of Precision Attachments is indicated.

[As makers of attachments, we are as anxious to discourage their use where contra-indicated as to encourage it where indicated.]

COLUMBIA DENTOFORM CORPORATION

131 East 23rd Street

New York 10, N. Y.



FREE Paper Mixing Pad FREE with every package of Krex FOR A SHORT TIME ONLY

The 50-sheet Paper Mixing Pad ordinarily sells for 50c—Krex for \$2.50. During this Special Offer you get both for the price of Krex.

If you have not tried Krex, this is your opportunity to do so on a super value basis. Krex is so easy to mix and handle and has so many advantages over ordinary impression correctives that after working with it you will wish you had discovered it sooner. Order YOUR Krex Offers TODAY!



LEE S. SMITH & SON MFG. COMPANY

7325 Penn Ave.

Pittsburgh 8, Pa.

CO-RE-GA

the perfect adhesive for dentures

Dispels the inhibitions usually attendant during the adaptation days. Your prosthetic patients will appreciate the recommendation of this older dental product.

FREE DENTISTS' SAMPLES ON REQUEST — (Please use your card or professional stationery)

WILSON'S
CO-RE-GA

CO-RE-GA is not advertised to the public.

COREGA CHEMICAL COMPANY
208 St. Clair Ave., N.W. Cleveland 13, Ohio

If we adopt this philosophy of trusting to the wisdom of the body, we can escape from the bad habit of taking drugs to induce a sleep that may not be a physiologic need.

Interesting, If True . . .

It is always a task to unwind a pretty piece of fiction from life facts. We should like to believe some stories because they appeal to our idea of the romantic or the unusual. Doctor Daniel A. Poling, in his column in the *Indianapolis Star*, tells this story:

"Some sixty years ago an English boy while swimming in one of Scotland's little lakes was saved from drowning by a farmer's son named Alexander Fleming. Quite naturally the boys became friends and the parents of the lad from England became interested in the boy who had saved their son's life. When they learned that it was Alexander Fleming's ambition to study for medicine, they made it possible for him to secure an education. Today the youthful lifesaver of sixty years ago is internationally famous as a scientist and as the discoverer of penicillin.

"Two years ago when Winston Churchill left the Teheran conference he was a sick man and by the time he reached Cairo he was seriously ill with pneumonia. Penicillin saved his life.

"According to the story passed on to me by my friend, Albert Arend of Spokane, that was the second time that Alexander Fleming saved the life of Winston Churchill, the English boy who nearly drowned in a Scottish lake."

Permanent Records Are Important . . .

Do you have a permanent record of the mouth of each of your patients? This type of record is tremendously important, and easy to accomplish. Use the Ryan Treatment and Examination Chart as illustrated here. It is being widely used and is acclaimed the most practical chart for record purposes. Use it on *one case* . . . and you will want to use it on *every case*. The coupon is for your convenience.

The Dental Digest
1005 Liberty Ave., Pittsburgh 22, Pa.
Here is \$1.00 for a pad of 50 Ryan Examination and Treatment Record Charts.

Dr.
Address
City

Attitudes of Returning Veterans to Dentistry . . .

Most of us probably have been, consciously or not, conducting informal opinion polls among the returning servicemen concerning their attitudes toward dental treatment. With so many of our young men being released from the Army and Navy, we are beginning to see considerable dentistry that was done by the Army and Navy Dental Corps, and to hear many of the attitudes



Every DWT
of your precious
metal scrap.

... brings full returns with

WILLIAMS

dyna-flo
REFINING

★ Williams exclusive method of refining—*Dyna-flo*—extracts ALL precious metal content, not just the gold and silver. You are paid for every pennyweight of valuable contents: platinum, palladium, gold, silver. Because the Williams *Dyna-flo* process is faster, more efficient, you receive a correspondingly higher return for your scrap. What's more, for your financial protection, your scrap shipment is *triple-checked*, and the results reported to you on a special refining memo... Send your scrap today through your Williams dealer or direct.

WILLIAMS GOLD REFINING CO., INC.

Fort Erie N., Ont. • 2975 Main Street, Buffalo 14, N. Y. • Havana, Cuba

of the recipients of this service.

From an objective side, the dental services performed in the Army and Navy are generally no better and no worse than what we see in private practice every day. From a subjective, psychologic point of view, however, the services have been performed under abominable conditions. When young men are required to have five or six amalgams or silicates placed at a single sitting, a good feeling toward dentistry is not created. The impersonalness of the dental service in the Army and Navy was not liked by servicemen. Being required to be shifted about from one dental officer to another was not good. The practice of "filling" the small cavities to increase the quantity mass production figures of the dental corps, and allowing the large cavities to go untreated, was not sound dentistry. We see too many pit and fissure restorations that may or may not have been necessary, too many large restorations that were sloppily done, and too many edentulous spaces that represent teeth

that might have been saved.

Generally, the criticism of the dental service in the armed forces could be laid at the door of the Surgeons General who at no time demonstrated any knowledge or interest in dental problems. Their only criterion of the dental service apparently was on a quantitative basis. The Surgeons General were greatly impressed with the reports on the number of teeth extracted, "fillings" inserted, and treatments given. The quality of the service was not emphasized. In the years

ahead, dentists in civilian life will not only have to replace many of the "fillings" but will have a tough time convincing many of these people that dentistry is worthwhile. Hundreds of dental officers learned that the only way to get recognition and promotion was to make an impressive production record. In turn, the officers in command of dental installations found that the only way they could gain advancement for themselves was to show an ever-increasing production figure. The result from the top

Others Have Tried BS POLISHERS Why Not You?

Many dentists have sent in the coupon below and found out why BS Polishers are preferred over many others. They can readily understand why this soft, flexible rubber polisher makes a patient feel safe and comfortable, also why it is easy for it to clean and polish every tooth to a lustre brightness. Why don't you find out these facts for yourself? Send the coupon in now!



Young Dental Mfg. Co.
St. Louis 8, Mo.

Gentlemen:

Without any obligation send us one of your BS POLISHERS — ABSOLUTELY FREE.

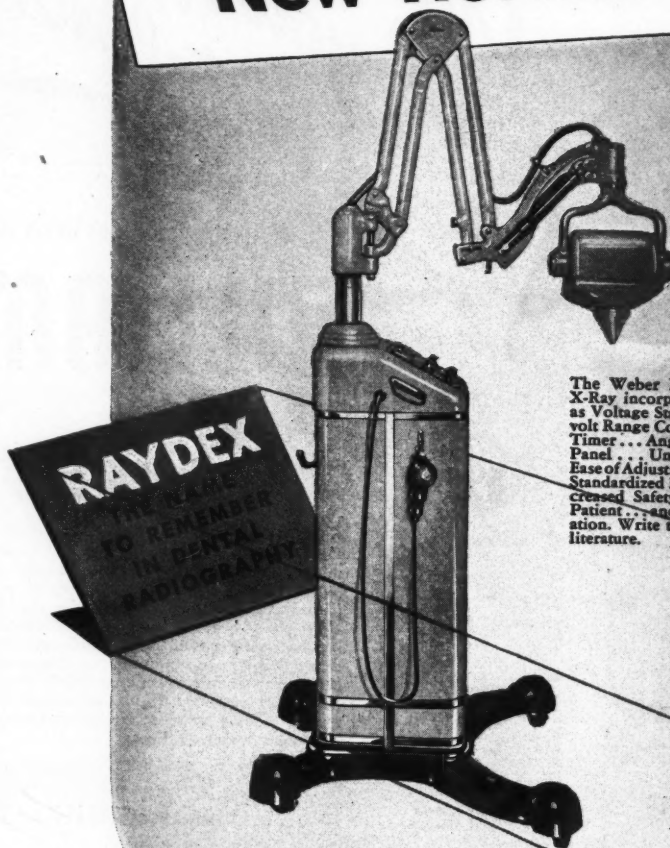
NAME

ADDRESS

CITY

STATE

New Horizons for



The Weber Model "X" Ray-Dex X-Ray incorporates such features as Voltage Stabilization... Kilovolt Range Control... Reversible Timer... Angle-mounted Control Panel... Unusual Flexibility... Ease of Adjustment and Control... Standardized Fixed Factors... Increased Safety for Operator and Patient... and Simplicity of Operation. Write today for descriptive literature.

WEBER DENTAL MANUFACTURING CO.
CANTON 5, OHIO

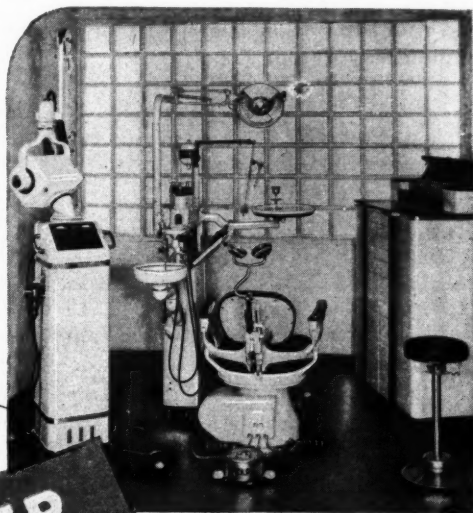
to the bottom was something like this: The Surgeons General demanded the heads of the dental division to turn in reports showing high production figures. The chiefs of the dental services, in turn, told their service commands and naval district officers to speed up production. They, then, passed the word down to the individual camps and stations, where the operators at the chairs were told that unless they turned out a lot of dentistry no promotions were forth-

coming. The slave mart had nothing on this! The soldiers, sailors, and marines sitting in the dental chairs were the people who suffered, all because somebody at the top of the heap was ignorant of and indifferent to dental disease and dental standards. The American Dental Association can do nothing better than to carry on a continuous and unceasing battle for complete separation of the dental service of the Army and Navy from the medical service.

Dental Radiography...

Truly great contributions are occasionally offered to the dental profession which over-shadow previous attempts in the same field. Such a contribution is the new Weber Model "7" RayDex X-Ray which has emerged from the test tube of Weber's war production experience to create a new and broader scope of usefulness in the field of dental radiography.

Designed and built especially to meet the rugged requirements of strenuous war service under extreme operating conditions, this new Weber Ray-Dex has established unbelievable records for accuracy and endurance far beyond the ordinary requirements of everyday dental practice.



WEBER
THE NAME
TO REMEMBER
IN DENTAL
EQUIPMENT

Vastly expanded manufacturing facilities now make it possible for Weber to meet both military and civilian requirements. Therefore, Weber Equipment is now being made available to practicing dentists and returning veterans in steadily increasing quantities. Ask your Weber Dealer for particulars or write us direct.

DOUBLE

protection



COPALITE is the ideal insulating resin that eliminates thermal and galvanic shock and postoperative pain due to thermal extremes. This germicidal, intermediary varnish is used under every type of restoration — silicate, porcelain, amalgam fillings, inlays. It penetrates, seals the tubuli against absorptive action and irritating filling material. Prevents hyperaemia, death of pulp and discoloration.

OVR-COTE as the name implies, is a temporary covering lacquer which safeguards the restoration while setting, against the harmful action of all mouth fluids. It is very easy to use, requires little time. Use Copalite and Ovr-cote on every restoration for strong, lasting, successful service. The cost is negligible. Write today for complete information.

HARRY J. BOSWORTH COMPANY
1313 S. MICHIGAN AVENUE • CHICAGO

AMMONIACAL SILVER NITRATE and FORMALIN

(Howe)

Always Fresh
in Ampoules



A standard drug in dental therapeutics, providing a simple method for control of dental caries.

The chemicals used in this compound are of the highest quality in purity and uniformity. The solution in every ampoule has been given a chemical analysis. You may rely upon the contents in ampoules being a definite uniform chemical compound.

After opening, an ampoule may be tightly sealed and will retain its chemical balance and metallic silver content until the last drop is used.

P. N. CONDIT
Box 204, Back Bay, Boston 17, Mass.
Without obligation send me your new illustrated booklet.

Name
Address
City and State

**PROFESSIONAL PREFERENCE JELENKO NO. 7
FOR GOLD COLOR PARTIALS STILL GROWING.
THIS "PATRICIAN OF CASTING GOLDS" FAST
BECOMING PROFESSION'S STANDARD=**



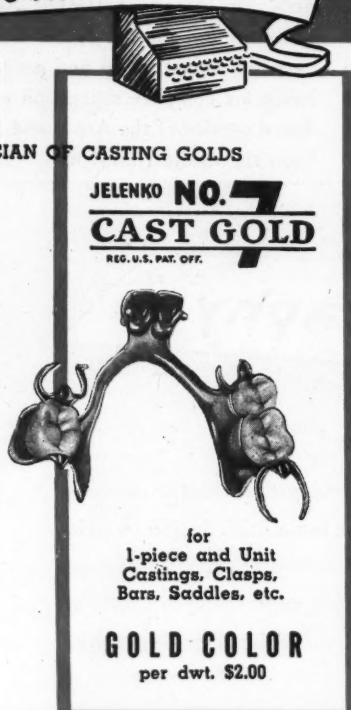
THE PATRICIAN OF CASTING GOLDS

THIS preference is well deserved. Among Gold Color partial denture casting golds "Jelenko No. 7" is unsurpassed — in precious metal content; resistance to mouth discoloration; in its physical properties, nicely balanced to give the optimum combination of strength, lightness, flexibility and hardness obtainable in a gold color casting gold, compatible with good working qualities.

The ever-growing demand for "Jelenko No. 7" simply confirms dentistry's belief that nothing is too good for the human mouth.

Sold by Better Dealers
Everywhere

Send Your Scrap to Jelenko;
Accurate Assay, Prompt Report



for
1-piece and Unit
Castings, Clasps,
Bars, Saddles, etc.

GOLD COLOR
per dwt. \$2.00

J. F. Jelenko & Co., Inc.

Manufacturers of Dental Golds & Specialties

136 West 52nd Street • New York 19, U.S.A.

"Doctor" Prefix . . .

The state legislature of Missouri has passed a bill known as the "Doctor Prefix Bill." This legislation prohibits "any person licensed to . . . practice the curing, healing, or remedying of ailments, defects, or diseases of body or mind from using the prefix 'Doctor' in connection with his name . . . without affixing . . . suitable words or letters designating the degree held by such person or the particular type of practice in which such person is engaged." That is

good. It will keep some of the corn "doctors" from masquerading as orthodox practitioners, and it may keep some of the doctors of divinity and the doctors of philosophy from being called upon in emergencies to treat the afflicted. It should result in some kind of reform in usage.

We receive letters frequently from someone who signs himself Doctor This-That-And-The-Other-Thing, and who, to make certain, puts a D.D.S. after his name. No one under any condition should ever sign himself "Doctor." If an indication of a pro-

fessional degree is desired, which is frequently necessary, the initials for the degree should be carried after the name. Along with labeling oneself "Doctor" in writing, there is a practice in the East among some dentists to call themselves "Surgeon-Dentists." That can be classified as flamboyant and pretentious. Dentists need not hang fancy titles on their names, because the word "dentist" in itself is descriptive and accurate, and in proper usage. It is, in fact, a word of great respect.—E. J. R.

**The Use of Penicillin
in Vincent's Angina**

Maj. PAUL L. SHALLENBERGER (MC) AUS, Lt. Col. EARL R. DENNY (MC) AUS, and Maj. HAROLD D. PYLE (MC) AUS

THE CHEMOTHERAPEUTIC effects of penicillin in certain spirochetel infections have been demonstrated successfully in human subjects and in experimental animals. In view of the spirocheticidal potentiality of penicillin, one of us (P. L. S.) suggested that penicillin might be of value in the treatment of infections due to or associated with Vincent's organisms. Our clinical and bacteriologic observations had indicated that penicillin was indeed highly effective in the treatment of Vincent's infection.

The present study is based on adult patients with Vincent's infections admitted to the communicable disease section of the Gardiner General Hospital.

Diagnosis—The diagnosis of Vincent's angina was established in each patient by the findings of a patch or patches of pseudomembrane which is formed by the necrosis of the superficial layers of the mucous membrane and not by exudation. The patches were grayish white surrounded by an inflamed areola, usually separated from one another by normal healthy tissue. When the pseudomembrane, which was granular and cheesy in consistency, was removed an underlying ulcerative area was found with some variation in extent and depth. There was a tendency for the ulcer-

ated area to bleed and the reformation of a new pseudomembrane. The areas involved were often confined to one or both of the tonsils, the tonsillar fossae if the tonsils had been removed, the pharynx or the soft palate.

The clinical diagnosis was confirmed by making a microscopic examination of a fresh smear taken directly from the ulcer or the scrapings from the pseudomembrane, stained with warm carbolized crystal violet, demonstrating fusiform bacilli which were twice as long as they were wide, pointed at the ends, and a spirillum approximately 10 to 20 microns in length. From each patient of groups 3 and 4 cultures were obtained to exclude other pathogens, such as hemolytic streptococci.

Grouping of Patients—1. Group I consisted of 13 patients admitted during November and December 1943 who were treated variously with hydrogen peroxide, sodium perborate, chromic acid, silver nitrate, and oxophenarsine hydrochloride (mapharsen). Most of this group were treated by swabbing the involved areas three times daily with a mixture of 3 per cent chromic acid and 10 per cent silver nitrate, preceded by gargling a mixture of equal parts of 50 per cent sodium perborate and 50 per cent hydrogen peroxide. A few of the patients received, in addition to this treatment, and others alone, 0.03 gram of oxophenarsine hydrochloride intravenously every second or third day.

2. Group II consisted of 11 patients admitted during January and February 1944 who were treated with 1 gram doses of sulfadiazine, used as lozenges, every four hours.

3. Group III consisted of 9 patients admitted subsequent to February 1944 and treated with penicillin by local application. The following method was used:

a) The involved tissues were swabbed with penicillin in a concentration of from 250 to 500 units per cubic centimeter four times daily.

b) Daily smears were obtained.

c) Treatment was continued until the smears were negative for Vincent's organisms. No other supportive treatment was administered, although

acetylsalicylic acid 5 grains (0.32 grams) was given as indicated for the relief of pain.

As the investigation progressed, concentrations of the penicillin solution used were maintained at 500 units per cubic centimeter.

4. Group IV consisted of 2 patients treated with penicillin administered intramuscularly alone. One of those was treated with penicillin intramuscularly because his symptoms were unusually severe. In order to deter-

mine the clinical and bacteriologic effectiveness of penicillin following intramuscular administration, the second patient of this group was subjected to detailed study. The procedure in investigating this patient was as follows:

a) Cultures of the lesions were made on admission.

b) Warm carbolized crystal violet stained smears of the lesions were made on admission.

c) Fifteen thousand units of

REPORTS FROM THE HOME FRONT

DISCRIMINATING PARTIAL DENTURE PATIENTS
TODAY WANT SOMETHING DIFFERENT. PRICE
NO OBJECT. DENTISTS FIND ANSWER IN
JELENKO "ALBACAST" PLATINUM COLOR GOLD.



If you have such patients — and what dentist hasn't today — "Albacast" is something different! A rich, platinum color gold which gets its platinum color from its high platinum content! There is NO Nickel in "ALBACAST." It's not an economy white gold. It's the most costly gold we make.

And patients who know quality, love it!

Truly, there is no better gold made than "ALBACAST."

Sold by Better Dealers
Everywhere.



J.F. Jelenko & Co., Inc.

Manufacturers of Dental Golds & Specialties

136 West 52nd Street • New York 19, U.S.A.

"Carpule"

REG. U. S. PAT. OFF. & CANADA

Injection Needles

DEPENDABLE QUALITY INSIDE AND OUT!

SCALPEL-SHARP POINTS

Scalpel-sharp points that stay sharp for easy tissue penetration with minimum pain and trauma. . .

SPECIAL STEEL TUBING

A special non-corrodible steel — unerringly strong, yet subtly flexible — for safe, sure strength. . . .

FIXED, SECURE BALL

A ball so securely fixed that it is virtually a part of the needle itself for positive retention of the needle in the syringe. . . .

POLISHED STAINLESS CANULA

A canula lined with a noble metal, also non-corrodible, for extra reinforcement and interior smoothness. . . .

These are the reasons why "Carpule" Brand Needles provide that extra margin of safety and satisfaction so important in the administration of local anesthesia.

COOK-WAITE
Laboratories, Inc.

170 Varick Street, New York 13, N. Y.
Laboratories:
Wheeling, W. Va. & Springfield, N. Y.

Order a Supply Today!

penicillin in a concentration of 10,000 units per cubic centimeter was administered intramuscularly every three hours for eight doses.

d) Following the institution of penicillin treatment, estimates of the number of Vincent's organisms on stained smears were made hourly for twelve hours and subsequently at less frequent intervals.

e) The changes in objective and subjective symptoms were observed at the time specimens were obtained for

bacteriologic examinations.

Prior to January 1944 it was common practice to apply directly to the affected areas astringent agents and other medicinals which liberated nascent oxygen. As already noted we used mixtures of chromic acid and silver nitrate, sodium perborate and hydrogen peroxide, and in some cases oxophenarsine hydrochloride with this treatment, and in others alone. In this group most of the smears did not become negative until the seventh

to the twelfth day.

During January and February 1944 1 gram doses of sulfadiazine were used every four hours, administered as lozenges. Eleven patients were treated by this method. In most of the cases the smears became negative for Vincent's organisms by the seventh or ninth day.

Group III—In Group III the clinical and bacteriologic responses as obtained with local penicillin therapy were striking. There was improvement in the appearance of the ulcerations in twenty-four to forty-eight hours and a relatively rapid subsidence of the symptoms. Pain was rapidly relieved in those patients who were suffering severely. The grayish membrane often would start receding in from three to five days from the beginning of treatment. The organisms disappeared frequently before the pseudomembrane faded. With the exception of one case, the infecting organisms disappeared from the site of infection by the fifth day. Excluding this one case, which persisted in giving a positive smear, although clinically much improved by the fourth day, the average time of disappearance of Vincent's organisms was 3.7 days following the institution of penicillin therapy.

Group IV—In Group IV intramuscular penicillin was administered to one patient who was acutely ill with Vincent's angina because of the severity of the disease. This patient had a temperature of 103.8° F. with hot, moist, flushed skin, a pulse rate of 110, and pronounced injection of all the gingival margins, the tonsils, and the pharyngeal wall. There was considerable edema with an occasional patch of loosely attached grayish membrane over the tonsils and pharyngeal wall, which bled on separation. The submaxillary lymph nodes were enlarged and painful. The pain was severe. He was given 25,000 units intramuscularly followed with 15,000 units intramuscularly every three hours for thirty-three doses. An alpha hemolytic streptococcus was obtained on culture, but the predominating organisms were fusiform bacilli and spirilla of Vincent's organisms. Spi-



MAKE "INSTRUCTIONS" PAY WITH *Py-co-pay*

USE THIS **NEW** PROFESSIONAL COMBINATION PACKAGE

● Progressive dentists everywhere will appreciate the significance of this new Py-co-pay Combination! Used as an adjunct to oral hygiene instructions, Py-co-pay will —

1. Doubly emphasize the importance of proper oral cleansing equipment.
2. Help the patient remember his dentist's instructions...remember his dentist.
3. Serve as a daily reminder to visit his dentist regularly.

A supply of the new Py-co-pay Professional Combination Kits can be shipped to you without delay. Simply indicate the quantity you desire on the coupon below. Start making your "instructions" pay —with Py-co-pay!

ADULT SIZE

Includes \$.50 Size Py-co-pay Brush, and \$.50 Size Py-co-pay Powder.

per doz. \$2⁵⁰ • per gross \$25⁰⁰

JUNIOR SIZE

Includes Junior Py-co-pay Brush and Professional Trial Package Py-co-pay Powder.

per doz. \$1³⁰ • per gross \$12⁵⁰

ENCLOSE BUSINESS CARD OR LETTERHEAD

15K

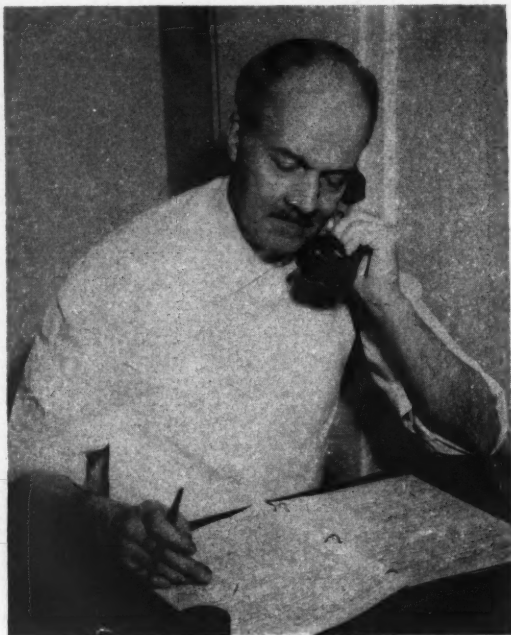
PYCOPE, INC., 2 High Street, Jersey City 6, N. J.

Please ship { Py-co-pay ADULT SIZE Professional Combination Packages with
 ___doz. { Nylon No. 1 Medium _____ No. 2 Hard _____ No. 3 Extra Hard _____; or
 ___doz. { Natural (Extra Hard) _____ (Specify texture of brush in Adult Size Packages)
 JUNIOR SIZE Packages.

Dr. _____

Address _____ City _____ State _____

☐ C.O.D.
☐ Check enclosed



ALKALINITY HELPS

Tender gum tissues, unaccustomed to the pressure of a new denture, sometimes become sensitive and irritated. FASTEETH, buffered to maintain a mild alkalinity in contact with the tissues, checks and soothes soreness and inflammation due to chafing and hyperacidity.

When tissues are so irritated that they react unfavorably to the new denture the period of adjustment and adaptation may be prolonged unduly. FASTEETH'S sustained and mild alkalinity helps patients to tolerate new dentures quicker and more easily.



CLARK-CLEVELAND, INC., Binghamton, N.Y.



rilla and fusiform bacilli persisted on the second day of treatment, but on the third day of treatment repeated smears showed no evidence of the organisms. There was definite clinical improvement within forty-eight hours.

The second patient in Group IV who was studied in considerable detail was a soldier aged 23 who five and two days prior to entry developed pain in the right peritonsillar area and pain in the right ear respectively. These symptoms became progressively more severe. Moderate fatigue de-

veloped two days prior to entry. On admission the significant findings were as follows: The tonsils had been removed. An ulcer, approximately 1 by 2 centimeters covered by a grayish white membrane surrounded by edematous hyperemic mucosa, was present in the right tonsillar fossa. There was moderate hyperplasia and redness of lymphoid tissue on the posterior pharyngeal wall. The buccal and gingival mucosa appeared normal. The right submaxillary gland was slightly enlarged and tender. The

findings on otoscopy were normal, indicating that the pain in the right ear was referred from the diseased right tonsillar area. The complete blood count was normal. Culture of the lesion showed only a few hemolytic streptococci, Lancefield type C, but direct smear revealed innumerable fusiform bacilli and spirilla. The patient was given 15,000 units of penicillin every three hours for eight doses. By the sixth hour after the first dose of penicillin, pain in the right peritonsillar area and the right ear ceased and tenderness in the right peritonsillar region stopped two hours later. There was less edema about the lesion twenty-four hours after the start of treatment. At forty-eight and seventy-two hours the size of the ulcer and pseudomembrane had diminished progressively. The latter gradually faded and disappeared on ninth day.

In estimating the rapidity with which the Vincent's organisms disappeared following treatment, the smear taken prior to the institution of treatment was presumed to represent 100 per cent. The injection of 15,000 units of penicillin resulted in a reduction of approximately 40 per cent of the organisms in three hours; following a second 15,000 unit treatment an additional 25 per cent reduction of organisms resulted three hours later; two hours after the third treatment, or eight hours after the first treatment with penicillin, fusiform bacilli and spirilla could be found only by searching several fields on the slide. Twelve hours after starting treatment, or after the patient had received 60,000 units, fusiform bacilli and spirilla completely disappeared from the site of infection, and subsequent examinations during the next five days resulted in negative findings.

The photomicrographs taken immediately before the first injection of penicillin and three and seven hours later clearly demonstrated the rapid disappearance of the organisms. Only seven fusiform bacilli and one spirillum were seen in smear taken seven hours after institution of treatment. —From *The Journal of the American Medical Association* 128:706-709 (July 7) 1945.